THIS MONTH'S COVER

Typical of the newer hair products of the Nestle-LeMur Co. is the portable tiny size can of "Spraze," designed especially to fit in a beach bag or purse. The product, retailing at 49¢, and distributed nationally in drug and 5 and 10¢ stores, restores hair body and lustre through its lanolin base. (Cover story on Nestle-Le-Mur appears on pages 14-16 of this issue.)

Wayne E. Dorland
Editor

Donald A. Davis
Managing Editor

Eleonore T. Kanar
Technical Editor

Ralph Dorland
Advertising Manager

Robert Garty
P. O. Box 126
Park Forest, Illinois
Skyline 6-4499
Midwestern Manager

Doris Metz
Circulation

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The magazine of pressure packaging

AEROSOL AGE

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Sun Tube

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AEROSOL SALES DEPARTMENT

HILLSIDE
NEW JERSEY

If your product is on this list

1. Topical Applications
   - A. Fungicides
   - B. Bactericides and Antiseptics
   - C. Sun Tan Sprays
   - D. Hair Sprays
   - E. Antiperspirants and Deodorants
   - F. Depilatories
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   - J. Skin Freshener Lotions
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   - L. Insect Bite Lotions
   - M. Insect Repellents
2. Metal Cleaners and Polishes
3. Antifogs
4. Glass Cleaners
5. Stain Removers
6. Fungicides
7. Starch Gloss
8. Mothproofers
9. Shoe Dressing Preparations
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11. Air Deodorizers
12. Water-Soluble Antibiotics
13. Glues and Pastes
14. Weed Killing Preparations
15. Plant Foods
16. Hand Cleaners
17. Antistatic Agents

...here's aerosol news you'll welcome!

Emulsol Chemical Corporation

FOR IMMEDIATE RELEASE

Sprayable Aerosol Emulsions
Made Practical by New "Emcol"
Emulsifier

Many more products can now be aerosol-packaged because of a new emulsifier development, Emcol 14, announced by Emulsol Chemical Corporation, Chicago, manufacturers of surface-active agents.

Emulsion formulations using fluorinated hydrocarbon propellents with Emcol 14 create desirable sprays with minimum foaming and container corrosion. This new emulsifier assures a satisfactory sprayable emulsion system containing water-soluble products, making formulations practical for many products with characteristics suitable for aerosol packaging.

Full details are available in Emulsol's Technical Bulletin No. 49 titled "Application of Emcol 14 as Emulsifier in Aerosol Emulsions". Write Emulsol Chemical Corporation, 75 East Wacker Drive, Chicago 1, Illinois.

serving many industries with numerous EMCOL emulsifying agents

Emulsol

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BRICKBATS and BOUQUETS from the MAILBAG

"The March issue of AEROSOL AGE carried an erroneous article detailing the expansion program of National Spray Can Filling Corporation and the absorption by them of Spray Mist, Inc.

"So far as I am concerned, it would have made me much happier if your article claimed that National had taken over some large concern. A larger company could more easily absorb the damage that was done to Spray Mist, Inc.

"The fact of the matter is that Spray Mist, Inc. has never been merged with nor absorbed by any company, least of all National Spray Can Filling Corp.

"We are still very much an independent corporation doing business at 2280 Flatbush Avenue, Brooklyn, and contemplate continuing independently in the future.

"For this reason, we feel that we are entitled to a retraction of your release in a place of prominence in the very next issue of AEROSOL AGE in order to undo some of the damage we have sustained in customer losses to National through this article."

Simon Ackerman
President
SPRAY MIST, INC.
Brooklyn, New York

AEROSOL AGE *stands corrected, and apolgizes to Mr. Ackerman for an error in interpretation in a press release. We hope that printing this letter will correct any adverse publicity the article may have caused.*

At the same time that we point out with pleasure that your magazine is well edited, attractive in its printed appearance, and valuable in content, we would like to correct an error we notice in your February number.

You mention, very rightly, that there are now five fillers in Finland and a large per capita consumption of aerosols. However, your correspondent mentions that aerosol production in Finland in 1956 was about 250,000 to 300,000 dispensers.

Actually, it is estimated that during last year there were produced about 600,000 insecticide aerosols (of which our firm produced approximately 300,000 six-ounce converted aerosol units). Add to the 600,000 figure small quantities of other miscellaneous aerosols (perhaps 50,000 in all) and the total production comes to a figure of about 650,000 units. As Finland has a population of a little more than 4 million people, the result must be judged a good one.

The industry began here with the import of insecticide aerosols from England in 1948, and a couple of years later we began filling them locally.

Yrjo K. K. Talvitie
BERNER OSAKEYHTIO
Helsinki, Finland

In the Spotlight this month

- **Nestle-LeMur** . . . Research, experience, and modern production techniques are the cornerstones of this hair cosmetic firm's aerosol activities. Story and pictures on page 14.

- **Practical Problems in Odorization of Aerosol Products** . . . The importance of odors in a variety of pressurized products (some of them not commonly thought of as "scented") is the subject of an article (by the staff of a leading manufacturer of perfuming materials) on page 17.

- **Dip Tubes in Aerosols and Related Products** . . . The core of the pressurized product, the dip tube, is discussed fully (together with formulation and product problems) in an article beginning on page 20.

- **The Powder Aerosol**—Dawn of a New Era in Antibiotic Medicine . . . An English physician, closely connected with the development of "Polybactrin" talks about the medical values and probable future uses of this new form of aerosols. He sees a bright future for aerosols in antibiotic and surgical medicine. Story on page 24.

- **Lanolin for Aerosols**—I. . . . Irving Colbert outlines some of the widespread uses of lanolin and lanolin derivatives in all types of aerosols. The first of a series on use of lanolin in aerosols appears on page 31.

- **Philadelphia College Begins Aerosol Course** . . . Another major college invites pressurized packaging to become a part of its curriculum! A leading Eastern pharmaceutical college, in recognition of the importance of aerosols, institutes a full-fledged course in pressurized packaging. Story on page 35.

- **Chicago Packaging Show** . . . Booths are described and personnel listed, for the show in which the aerosol industry makes an important impression on other phases of the packaging field.

- **Aerosols in Review** . . . A compendium of important articles on aerosols, appearing in other magazines, appears on page 38.

EDITORIALS

Aerosol Publicity Campaign . . .

The CSMA Aerosol Publicity Committee is reported to be ready to get under way its projected aerosol market development and publicity program. Approximately 50 contributors have put together a fund of close to $30,000. A remarkable feature of this particular fund is that it does not represent mere pledges, but rather the full amount to cover the first year's operation of the program is already in the bank in cash. There will be no necessity of entertaining an idea of spending the money first, and trying to collect it later.

While the fund is already impressive indeed, an additional sum of about $20,000 more is needed to assure seeing the program through the two years contemplated for it. We urge those in the aerosol industry who have not already made their contributions to send their checks at once to the CSMA office or to Frederick G. Lodes, publicity committee chairman.

The purpose of the program is, of course, to increase the sale and acceptance of aerosol products. In aiming for this objective, the number one project will be to "educate the consumer in the convenience, economy, and safety of aerosols."

The industry has a great deal to gain from such a program, particularly at this stage of development of the aerosol business. There is a need to make consumers aware of what aerosols are, and of the numerous and varied types of aerosol products available. Whole new markets for pressurized consumer products are waiting to be built up, and new marketers need to be supplied with information which will hasten their entry into the field of aerosol packaging.

Admittedly, there has been a phenomenal rate of expansion in the aerosol industry over the first ten years of its existence. However, a publicity program such as this will insure that there are enough new packagers and new buyers of aerosol products to boost the industry's volume to $500 million within only a few years.

Our thought on the program is that it needed to be done on an even larger scale if it is to be expected to make any major contribution to making consumers "aerosol-conscious," and toward generally building and strengthening the market.

An annual budget of $25,000 is just about one ten-thousandth of the annual volume of business the industry is reported to have done in 1955—a mighty small portion to "put back into seed." We would like to see the program on a larger scale. However, it is probable that there never was a program like this one where there weren't dozens of different opinions as to how large it should be, how the fund should be collected, who should spend it, and for what purposes it should be spent.

The important feature of the program now under way is that it is an actual fact—not some vague proposal of what might be or what could be done. It is already an actual cash fund which the committee can shortly begin to use to get the proposed program under way. If you are connected with the aerosol industry in any way, you will benefit along with the rest of the industry. And if you haven't already made your contribution to this cooperative project, it's time right now to get behind the committee and the CSMA.

Nestle Le-Mur's cold filling line

The engineering department

Nestle-Le-Mur

A company, with 50 years experience in the hair cosmetic field, finds a solution to the quality control problem for a diversity of problems by setting up its own plant

by Roger Barkann
Publicity Director, Nestle-LeMur Co.

HOW can a company maintain the product identity and quality of a diversified line of aerosol products, products that must be produced and marketed not only in the United States but in all parts of the world by subsidiaries, agencies, representative affiliates and associated groups?

The Nestle-LeMur Co., New York, with more than 50 years experience in the hair cosmetic field, was faced with this problem. Management decided that laboratory control alone was not the answer, but that "company know-how" must be expanded to include all phases of aerosol operations. A complete staff, including chemists, engineers, a bacteriologist and pharmacologist, has acquired this know-how over a period of many years.

The company's history began more than 50 years ago, with the invention by Charles Nestle, its founder, of the first successful permanent hair wave. This discovery very understandably had the effect of making the company an "expert" in the hair field, and for many years its activities were concentrated almost exclusively in the hair grooming market, particularly in wave lotions, rinses, pomades, temporary and permanent hair colorings, etc.

However, in recent years, directly or through such subsidiary companies as Harriet Hubbard Ayer, Ed Pinaud, and Mavis, the company developed a comprehensive line of cosmetics, including every item used by men or women. With the development of the aerosol, and its tremendous popularity, many of Nestle-LeMur's products came to be packaged in pressurized containers. Recently, the company even went so far as to form a subsidiary, LeMur Chemical Co., which specializes in pharmaceutical and household aerosol products.

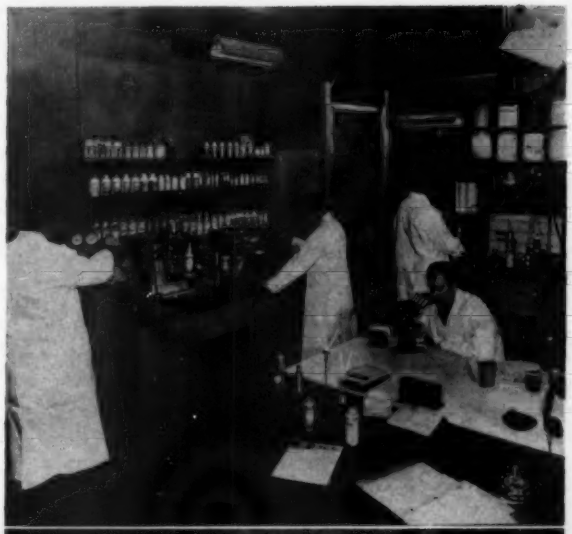
A world-wide organization, the company sells its varied product line through subsidiaries, agencies, representative affiliates, and associated groups. In order to maintain these markets, it is neccessary to supervise and furnish these foreign outlets with the latest developments in Nestle-LeMur products. But the increasing emphasis on aerosol products created an entirely new problem: it is not always economically feasible or physically practical to export this type of manufactured product for re-sale abroad.

The obvious alternative presented itself: it is often more practical to set up and equip aerosol plants, suited to the local sales requirements and product needs, in foreign countries. Naturally, Nestle-LeMur had to make adjustments in accordance with local availablility of raw materials, utilities, labor supply, capacity requirements, types of products most desired, etc. Plans, know-how, and working experience in aerosols are furnished by the parent company; and, if necessary, entire plants and accessory equipment are shipped.

Above: Two of the company's three pressure filling lines in operation.

Ever since the company's early interest in aerosol hair sprays, Nestle has taken so active a part in aerosol product development (particularly in the cosmetic field) that it has gained eminence in this field. Not only chemists and engineers (required personnel in any aerosol operation), but bacteriologists and pharmacologists have been recruited for the company's technical staff.

As a result, Nestle-LeMur is in a position to determine the correct requirements for any size installation and provide specifications for equipment, formulations, and packaging materials.



Right: Chemists testing aerosol products and loading aerosol cans by use of pilot equipment.

NESTLE-LEMUR'S experience extends to each of the two main types of pressurized packaging equipment—the cold (or refrigerated) and the pressure (or injection) types. Filling lines utilizing each type, as well as both in combination, are presently in operation. All but one line

Chemists working on various projects in the Chemical Research Division.

is automatic, and this is a versatile single hand line for small or large test runs.

On the cold filling line both glass and metal containers can be filled; and when the pressure tolerances are very close (as in glass containers) this is the method preferred. In all other instances, either method has been found to have its balancing set of pros and cons.

An examination of a typical Nestle double automatic line setup, followed through to the complete package, reveals a number of company improvements or refinements which will be incorporated into similar filling lines installed overseas.

Propellant is received in both bulk shipments and in one-ton drums. For flexibility the tank truck loads are connected to a high-speed turbine-type pump and pumped directly to their bulk tank storage facilities. Nestle-LeMur utilizes one-ton cylinders, which are stored in specially constructed steel racks three high. This permits ready accessibility to the cylinders, each being handled easily with a 400-pound fork truck.

To supply any or all of the filling lines with propellant, two pumping methods are used. One is a turbine-type pump operating through an automatic modulating valve, on which an 80-pound pressure is maintained continuously on the propellant in the feed line. The balance of the pump's capacity is by-passed back to the bulk supply tank, so that it is never forced against a closed line.

The second pumping system is an air-operated pump with a positive displacement piston. With this system whatever pressure one wishes to maintain on the liquid propellant can be pre-set.

For product or concentrate supply another system is employed. Stainless-steel or glass-lined tanks are manifolded into the feed or a stainless, explosion-proof, centrifugal pump, which is also equipped with a by-pass to prevent excessive pressures on the product feed line.

An important factor in any filling line is the air from which injection-type equipment derives its power. Both cold and pressure filling lines utilize air, but the former is somewhat more limited in its use of air. Neither need use air for indexing the conveyor chain, and Nestle here uses a separate hydraulic system for smoother movement. All the operating stations are air-powered, as are the injectors themselves.

The actual filling line begins with the can unscrambler, coupled with a can cleaning station just 16-inches before the concentrate is introduced. This cleaning station consists of a continuous vacuum, combined with a precisely-timed air blast to scour the inside of the container.

THE product is handled by a set of volumetric stainless fillers, which can be dismantled easily for cleaning, and can withstand most corrosive products. These are adjustable for amounts up to 12-fluid ounces, and have been used down to 8 cc. Accuracy is no problem, since standards are constantly checked by control technicians.

A purging station eliminates residual air with its adverse moisture and pressure effects, and this too is an automatic operation in which the container is sealed, vacuumized, and then filled with enough propellant to remove any residual air. The valve is immediately inserted into the container, while the purged atmosphere within the container is maintained.

At the next crimping station, the crimper sets the valve. The crimper is air-operated, so that regardless of can height variations, the proper pressure on the valve and relative position of the crimping collet will be maintained. The collet is of the long-jawed type, so that after the crimp the space between the impressions is minimal.

The final automatic operation of the Nestle filling line is the propellant station, where each container receives a metered charge of the selected propellant. The injection is automatic, "hand-wheel" adjusted, and cannot repeat into the same container. The rate of injection, depending on the valve, is from 140 grams per second to over 200 grams per second.

A weight check is made on the filled, sealed containers, and no rejects get beyond this stage. This, however, is not the final test. Next is a heat test tank through which passes a 30-foot double conveyor chain equipped with magnets beneath it. The container, clinging magnetically to the conveyor, is subjected to a five-foot decline, a 15-foot flat underwater run, and a five-foot rise. During this short "ride" the container is subjected to 140°F. water for at least three minutes, which is even beyond the requirements of ICC regulations.

BETWEEN the indexing conveyor and the heat test tank is a trough of water through which the indexing chain passes. Wash water is pumped through a heat exchange coil set into the heat test tank, thus continuously bathing the filling line.

(*Continued on Page 64*)

New plant addition currently being completed and equipped.

Practical Problems in Odorization of Aerosol Products

Staff article by Fritzsche Brothers, Inc.

IN considering the perfuming of any product to be put up in an aerosol package, the nature of the container—whether glass or metal—will be one of the determining factors in the formulation. The present article deals with problems peculiar to the aerosol packaging of certain cosmetic and industrial products, problems with which the creative perfumer, as well as the odorant specialist, is confronted in the odorization of aerosol-packaged products. For the perfumer's experience as a fabricator of scents may help him in this relatively new field, but fails to provide the exact practical guidance that had been so effective when he was confronted with the perfuming of a cream, a lotion, or other toilet preparation in conventional packages.

At the outset we may ask why an attractive fragrance or an effective industrial odorant is frequently disappointing when used in a pressurized package. The answer, from practical experience, is that a perfume or odorant undergoes changes when utilized in pressurized containers. On the other hand, certain perfumes may perform outstandingly in an aerosol where they may have demonstrated only a mediocre performance in standard packages.

As was noted above, the basic problems of odorizing aerosol products depend on the nature of the package itself; that is, whether it is of glass or of metal. Discussion may logically begin with the glass aerosol, although in point of time it is one of the more recent developments in the packaging field.

The advantages of the glass aerosol lie in its attractiveness and its elimination of the corrosion problem often associated with can-packaged products. The low pressure propellants, Freon #114 and Genetron #320 have made practical the use of glass as a container, and it has been found that they also have excellent stability with a very low tendency to odor deterioration. In a number of instances a fragrance has been found enhanced in its appeal when packaged in the glass aerosol. This fact cannot at present be explained. It may be

added that, since glass eliminates corrosive agents or contaminants from the containers, the spray and the fragrance remain completely stable for however long the customer may store the product.

THE causes for the odor changes just mentioned may be numerous and are as yet difficult to pin-point, but if experiments with glass bottles are made it can be shown that the choice of individual propellants and a variation in the quantities employed result in definite nuances in individual fragrances. This also holds true for other changes in the formula. It can be demonstrated further that Freon #114, for example, has a fair solubility but only a mediocre atomization with certain scents, while the same scents propelled with a combination of Freon #114 and Freon #12 demonstrate excellent atomization and a more pronounced odor upon spraying. A combination of propellants has in general a better solubility for perfume oils than either propellant alone. This may be seen in some type formulations that are packaged in glass.

GLASS AEROSOL FORMULAS

50% .... 4% alcoholic solution of perfume
50% .... Propellant, either Freon #114 or Genetron #320

FORMULA II —

50% .... 4% alcoholic solution of perfume
50% .... Propellant mixture consisting of 40% Freon #114 or Genetron #320 and 10% either Freon #12 or Genetron #12

A good spray is necessary. In colognes it should not be too fine as it would disappear in the atmosphere and must be just coarse enough to be slightly wet. The controlling factors are:

1. Correct pressure.
2. Valve actuator.
3. Proper propellant.

A higher propellant content results in a better spray and yet it should not be too high as the spray will then be too fine and too dry.

Pressure is also controlled by the ratio of alcohol and propellant. Every combination must be formulated with care because certain components will precipitate or flocculate. Resins and some absolute essences will cause sedimentation.

One of the difficulties in fabricating a perfume for an aerosol arises from the fact that a number of essential oils and aromatic chemicals commonly employed in perfumery, (non-irritating under normal conditions) will, when sprayed in very fine particle size, acquire a pungency that may result in sneezing. The first task of the perfumer, therefore, is to eliminate from his composition (or to employ very sparingly) those aromatics which exhibit sternutative properties. This having been done, the finished perfume composition may be tested for solubility in the propellant as well as for stability in shelf tests.

It is well known that most resins and balsams are practically insoluble in the propellants. If employed with a co-solvent these must be selected with discretion, so that a residue of the balsam or resin does not build up in the tiny orifice of the spray mechanism. Some essential oils and aromatic chemicals exhibit a solubility in propellants lower than the threshold considered practical in the odorization of aerosol-packaged products. However, the fact that a cologne or toilet water fragrance is usually enhanced in an alcoholic vehicle can be used to excellent advantage by employing alcohol as a co-solvent. The problem of solubility in a great many combinations which might otherwise be rejected for aerosol packaging is obviated through the use of alcohol as the co-solvent. This also permits a wider latitude in the selection of fragrances and in the fabrication of unusual fragrance types. There is no question, incidentally, that the aerosol-packaged cologne is in every respect the equal of the standard unpressurized product.

WE can now move on to a consideration of aerosol products in metal containers using room odorants, and insecticides packaged in cans as examples. The room odorant formula may be considered from the standpoint of fragrance, active components, propellant and co-solvent. As was noted above, most resins, balsams and certain aromatic chemicals are not soluble in the propellants. Since this applies as well to certain essential oils, the selection of solvents and co-solvents is of prime importance. The characteristics of a good room odorant are rapidity of action, effectiveness in masking unwanted odors and pleasantness of scent for continual use. The perfume is that most important component in a room odorant formula: it is upon this component that the initial sale of the product and its repeated purchase will depend.

Among the basic materials employed in room odorants are the glycols—such as triethylene glycol, propylene glycol and isopropyl alcohol

With the increased application of aerosols to new product types, odorization becomes increasingly important. The authors here discuss a few of the general problems encountered in a variety of different products.

and combinations of these solvents, such as are shown in the following formulas, meant for metal-packaged aerosol room odorants:

FORMULA I —

Triethylene Glycol
Propylene Glycol
Isopropyl Alcohol
Propellant
Perfume

FORMULA II —

Combination of Glycols
Quaternary Ammonium Salt
Isopropyl Alcohol
Propellant
Perfume

FORMULA III —

Petroleum Distillate
Propellant
Perfume

FORMULA IV —

Petroleum Distillate
Odor-destroying chemicals such as —
Lauryl Methacrylate
Perfume

The perfume content of such metal-packaged aerosol room odorants may vary between 0.2% and 0.5%. The question arises as to what determines the percentage of odorant within this range. Usually the first consideration is the basic formulation itself: for example, Formulas III and IV require a relatively high percentage of odorant to effect coverage of the basic components. The second factor is the type of odor selected. Such fragrances as orientals and florals may be particularly appealing at lower concentrations, whereas others —such as pine, cedar and light florals —may be more appealing in higher percentages. There is no hard and fast rule to cover this subject, and the matter finally resolves upon personal preference. A formula such as I above permits a wide selection of odor types; among the more popular would be the spices (including floral spice combinations), lavenders, mints, mintpines, cedar-pines, woody bouquets and oriental types (except those orientals which are excessively sweet), florals such as lilac or modified lilac types, including apple blossom. Frequently a clean antiseptic odor will be appreciated. In spray Formula II the fragrances generally preferred are apple blossom, lilac, woody bouquets, orientals, mints, pine combinations, lavender-spices and some spice bouquets. Spray Formula III, which employes petroleum distillate as a co-solvent, is usually odorized with pine or antiseptic type odors, mint combinations, carnation or clove blends (including many spice types), cedar-pines and some florals. For Formula IV the odor selection may range from pine, cedar-pine, lilac, spice, floral, spice-floral combinations, mints, rose blends and woody bouquets.

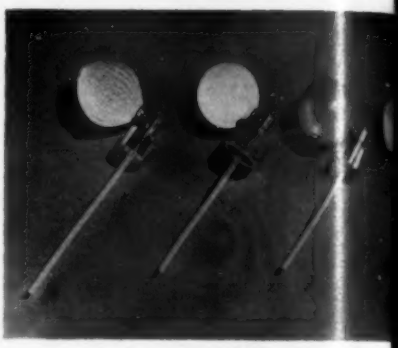
A WISE selection of odor types is contingent only in part upon the formula itself; but it should be noted that fragrance types themselves differ in covering properties, diffusiveness and general appeal. It is for this reason that the creative perfumer must take into consideration the individual components of a spray formula before he can decide upon the aromatics to be combined in any particular fragrance.

Insecticide formulations were the first to be successfully packaged in aerosol dispensers, and their use during the war years amply demonstrated their effectiveness. Insecticides dispensed in aerosols proved to be three times more toxic to mosquitoes and house flies than the same sprays employed in mechanical hand sprayers. The original spray formula (still an excellent formulation) included pyrethrum extracts. This formula was practically odorless, non-staining and non-toxic to man and warm-blooded animals. The introduction of piperonyl butoxide as a synergist further enhanced the usefulness of this insecticide. Since this insecticide has a relatively low odor intensity the addition of 0.1% to 0.2% of odorant is generally sufficient for coverage and for imparting an attractive top note. Although the number of odor types effective in fly sprays is quite extensive, the inclusion of odoriferous toxicants in the formula generally requires odorants which can superimpose themselves in low concentration upon the objectionable characteristic odor of the toxicant. Among such odorants providing optimum results are cinnamon and carnation, lemon and citronella, vanilla, fruity types such as peach, and some antiseptic odors.

MANY of the problems formerly associated with insecticides have been eliminated with modern techniques and methods of control, so that only a few considerations must be given to the formula itself. Active ingredients, including toxicant and vehicle, must be compatible with the propellant, and the perfume must be compatible with the propellant as well as with the active ingredients. Spray characteristics—such as spray patterns — are usually determined through choice and proper valve design, while the odor effect is contingent upon the propellant combination, the nature of the toxicants and, of course, the perfume. Container corrosion, always a problem in long-term storage, is being controlled as more specific knowledge of formula components and their stability is obtained. It follows, therefore, that the shelf life and usefulness of the product have been prolonged. Of course, in all types of aerosol dispensers the safety factor hinging upon the internal pressure of the aerosol at room temperature must be considered. This is fairly well controlled through proper combination of the propellants.

No definite procedures can be set forth to guide the manufacturer in the selection of perfumes for his products to be packaged in aerosols, but fortunately he has at his command the services of many odor specialists who are devoting a large part of their research programs and of their daily activities to the development and testing of perfumes for aerosols. The manufacturer who depends upon such specialists will be assured that his product can be successfully odorized.★

Dip



IN every aerosol container the dip tube is the essential link between the contained products and the consumer. The tube is always attached to the valve, or other dispensing mechanism, and reaches into the bottom of the container.

Long before the beginning of the Aerosol Age, Anchor Plastics already had some experience in producing tubes for atomizers. However, when we got into the aerosol picture it soon became apparent that dip tubing for aerosols presented special problems. Much research time and effort had to be spent on the development and improvement of dip tubes suited exclusively for the aerosol industry.

One of the early problems encountered was the stress-cracking of polyethylene when in contact with alcohols, detergents, and other aromatic ingredients of aerosol formulations. This occurred where the tubing was stretched over the valve nipple. Relatively little was known at first about this phenomenon, since the fine tubing in atomizers was stretched but little over the tiny nipples. Also, the early aerosol insecticides or room deodorants rarely exhibited this phenomenon, since ingredients causing this cracking were not usually present in the pressurized cans at that time.

However, the development of shave creams, other foams, paint sprays, and the now familiar host of other products soon led to problems with stress-cracking. After extensive research, Anchor developed a modified polyethylene formula, "Aeroflex-P," which has come to be utilized in a good many of the aerosols produced today.

Continued research into this stress-cracking problem has enabled our researchers to predict the performance of extruded tubing. Special tests were developed to check on the reliability of the new tubing in the eventual aerosol can, and a good many other possible formulas were tested by us and formulated by the industry. However "Aeroflex-P" has remained the most practical composition our research has developed. Production techniques have since been improved to the point where this tubing costs only little more than regular polyethylene tubing. This was accomplished despite the fact that an extra operation is performed in incorporating the additive material.

The advent of hair sprays and other cosmetic uses necessitated a slight reformulation of "Aeroflex-P" in order to eliminate any even remote possibility of toxicity. A little later another slight change was made. The tubing was stiffened slightly in order to reduce the possibility of "blow-off" from the nipple during rapid filling.

In the beginning of the Aerosol Age dip tubes were attached to the valve nipples by hand, and therefore the tubing was supplied cut to lengths. Later, many valve manufacturers developed automatic staking machinery which generally fed tubing from coils onto the valve, and then cut it to length. Other manufacturers automatically attach cut tubing. These various requirements led us to develop automatic cutting machinery, automatic packing machinery for stack-packing the cut tubes in cartons; and for the coiled tubing, disposable cardboard spools and automatic machinery for traverse winding the tubing neatly onto these spools. Since the tubing is currently being extruded at well over 200 feet per minute, special methods had to be developed for changing spools. If the changeover takes only 15 seconds, 50 feet of tubing will have accumulated on the floor.

Later development of three-phase aerosols required even more accurately cut tubing, the need for which is explained later in this article.

Fairly recent development of aerosol fire extinguishers and nail dryers made it necessary to develop "Aerotuf" nylon tubing, which has better resistance to carbon tetrachloride.

Various new plastics and formulations are currently under study for butane-propelled aerosols, and for various other special requirements.

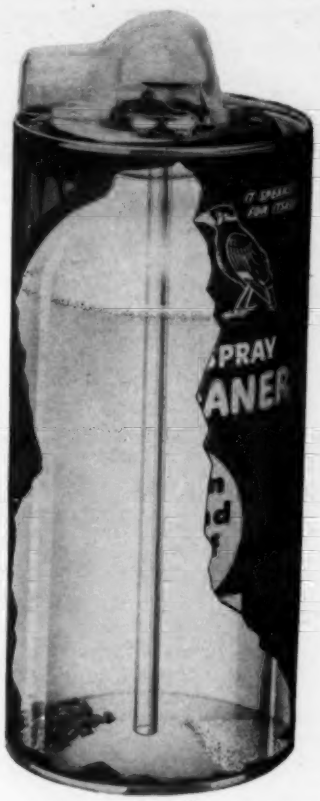
In tubing for regular aerosols (not containing carbon tetrachloride), the diameter is generally held to a tolerance of ± .0025 inches. The wall thickness is .025 or .020 inches. It is necessary to have the heavier wall thickness on smaller diameter tubing in order to give the tubing sufficient stiffness for the staking action.

If tubing is supplied to the valve manufacturer on spools, it will retain this curvature even after cutting. This curvature is often desirable since it enables the free end of the tubing to go to the side of the bottom. A straight tube might otherwise rest on the center crown of the can. This is particularly true with cans having a "stacking feature" where the center section of the bottom of the can is actually like a raised crater with side edges. If the tube touches this center section, it may become blocked, or may have a tendency to kink when it swells due to absorption of some of the ingredients, It is of course, also desirable to reach into the lowest portion of the can in order to siphon off all the contents.

For aerosols containing carbon tetrachloride, "Aerotuf" nylon tubing

Tubes

For Aerosols and related products



(*Chemway photo*)

By Peter H. Seckel
Anchor Plastics Co., Inc.

is specified. Since "Aerotuf" is much stronger and less elastic, tubing with a .016 inch wall can be used. The inside diameter of the tubing will have to be about .010 inches larger than its "Aeroflex-P" counterpart, since the nylon does not have as much "stretch." Even despite these provisions for easier fitting, it has not yet been found possible to attach nylon tubing to the valve nipple automatically. A softer nylon tubing is now also available, and it may soon be possible to attach this tubing automatically.

Where needed, tubing for glass aerosols is available in attractive colors. The tubing is, of course, visible, and colored tubing will often blend better with the color of the contents to give the entire package more appeal.

Three-phase aerosols, originally developed by Dr. Francis Mina of the Chemway Corp., present a special problem to the dip tube supplier. A small amount of propellant exists as a separate layer in the bottom of the aerosol container. The propellant provides even pressure from its top gaseous phase by the addition of boiling chips to the bottom layer. Special care has to be taken to insure that the dip tube will not siphon off from the propellant phase. Accurate determinations were made by the Chemway Corp. to determine the elongation of the tubing within the container. A special formulation was provided, "Aeroflex-PH" for minimum variation in this property. By this means it was possible to bring the open end of the tube close to the interphase.

Dip Tubes in Related Products:

To show the variety of uses for dip tubes, in other dispensed products, it may be interesting to cite a few examples:

Dip tubes replaced the fabric wick in atomizers many years ago. In tall bottles the mesh had a tendency to dry out so that repeated pumping or tipping of the bottle would be required to wet the wick. If the tipping caused the wick at the very top to become too wet, then heavy drops of perfume would first come out.

In order to overcome this problem, the Standard Atomizer Co. experimented with woven tubular wicks, on the assumption that the vacuum would suck some of the perfume through the center of the wick, thus wetting it upon first pumping.

Standard Atomizer then experimented with plastic tubing and found advantages. For one thing, the tubing could be pushed up to a positive stop on the nipple. By this means the length of the tubing could be controlled accurately so that the free end of the tube reaches right into the bottom corner of the bottle. The last drops of liquid could thus be removed, which is especially important with such products as expensive perfumes. Tubing was also cleaner and more attractive than wicks, which frequently discolor.

Microscopic examination for structure of plastic components after exposure to aerosol formulation

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"Squeeze bottles" also contain plastic dip tubes. When the bottle is squeezed, the top layer of air is expelled, and the rush of air through the dispensing head will form a vacuum in the tube. Liquid is then pulled up the tube to mix with the air to form a spray. Tubing for this application is produced with various inside diameters to control the flow of liquid. A very small inside diameter will restrict the amount, thus producing a fine spray. Very often, also, the spacing between the outside of the tubing and the retainer in the head will control the amount of air. We have produced fluted tubing for this purpose, the space between the flutes being the channels for the air.

Tubing for this application can be extruded with an inside and outside diameter tolerance of ± .002".

Dip tubing is also used in agricultural and garden sprays. Tubing for this purpose, made by Sprayers and Nozzles, Inc., has interchangeable spraying heads, which dispense the contents at different rates.

Need for a two-part dip tube was recently encountered on the "Windex" spray. With this product, which is available in two sizes, it was desirable to have just one pump do both jobs. A detachable bottom section was thus provided. The longer assembly can be used in the tall bottle, and the bottom tube can be removed for use of the pump in the smaller bottle.

Another new use for dip tubes is in lotion pumps developed by Evans-Crowder Co., to make possible the dispensing of lotions in controlled amounts. Lotions are very similar in physical properties to ketchup, one either gets too little or too much. This handy pump overcomes the problem, and provides a very neat method of dispensing. The dip tube in this particular product is provided with a serrated bottom cut. The open end of the tube will thus never be blocked, even if it touches the floor of the bottle.

Another interesting use for dip tubing came up just recently. The R. W. Shore Mfg. Co., was asked to develop a dispenser for oiling fire

(*Continued on Page* 64)

Australia Article Raises Quick Protest

AN article entitled "Aerosols in Australia" by Andrew H. Wolff of Pegasus International Corp., New York (in the January issue of *Aerosol Age*) has drawn verbal fire from Parco (Chemicals) Pty. Ltd., a major custom filler in Australia. L. Mueller, of Parco, has this to say about the article:

"We have just received copy of an article published in *Aerosol Age* for January by Andrew H. Wolff of Pegasus International Corp. From our point of view it contains some rather astonishing statements, which prompt us to write and give you a more accurate picture of the aerosol market here.

"Mr. Wolff mentions two custom loaders, Leonard Aerosol Industries Pty. Ltd., and Parco (A/sia) Pty. Ltd., our company. He says that Leonard is reportedly building a refrigeration line to be ready for operation early in 1957, which, as a supplement to their pressure unit, should easily make them leaders in the contract aerosol business. He then goes on to state: Not to be outdone, however, Parco is reported to have available facilities for undertaking cold filling, although no information is available as to the capacity of this equipment. Presumably, a full scale cold filling line will also be installed by Parco in the near future to wipe out any edge on the market, which Leonard may obtain by virtue of their being able to shortly handle both types of filling operations.

"The fact is that we have been cold filling and pressure filling for well over a year. Ever since our inception in Sept. 1955, we have had two complete manufacturing lines available, one pressure and one cold filling. Since buying Aerosol Packers' equipment we have had three lines going — one which may be used for cold or pressure filling, one which is only a cold filling line (mainly for bottles) and one for pressure filling only.

"We handle 95% of the aerosol contract business in Australia, manufacturing a large range of products.

"If our good friends Samuel Taylor Pty. Ltd. did indeed have 95% of the sales volume of pressurized products in Australia, this would mean that annual sales amounted to about 15-20 million units, assuming that we have produced most of the remaining 5%! It would surprise us if sales for the period January to December 1956 would amount to 10% of that figure."

In reply to Mr. Mueller's letter, Mr. Wolff, author of the original article, had this to say:

"It is to be regretted that this data about production facilities was late in reaching us, and that the article was therefore not quite as precise as it could have been.

"That Parco has loaded a substantial number of aerosols cannot be questioned. However, Samuel Taylor's proprietary brands have been marketed longer than any others in Australia, and until recently Taylor certainly could lay claim to having had a lion's share of total (not annual) sales."

In order to better clear up some of the questions raised by publication of the first article, and to include more recent production information, *Aerosol Age* is planning a further report on developments in Australia for later this year.

•

USDA Develops New Repellent

What is described as "the best all-purpose insect repellent so far developed" was released recently by the US Dept. of Agriculture. A product of research by the USDA and the Dept. of Army, the new repellent will probably be available on the market this spring, it is reported.

It can be safely applied to the skin or clothing and protects the wearer against mosquitoes, chiggers, ticks, fleas, and biting flies. The new repellent is an organic chemical, diethyl toluamide, synthesized some years ago by USDA chemists at the Agricultural Research Center, Beltsville, Md.

Pressurized Powder Sprays

Dawn of a New Era in Antibiotic Medicine

Dr. G. Barry Carruthers, London, England, who was closely connected with the development of the "Polybactrin" powder aerosol (featured on the cover of *Aerosol Age* for March) recently completed the following report on the product which has inspired so much comment in English and European medical circles.

UNTIL recently the application of the aerosol principle in medical practice has been confined to the use of certain antibiotics in solution for the treatment of respiratory infections. This technique delivers a fine mist of antibiotics, the particles of which are so small that, on being inhaled, they reach the small bronchial tubes and air sacs of the lungs, thus making contact with the foci of infection.

The principle of using aerosols for the local application of antibiotics recently reached a further stage of development in England, with the perfection of a special powder spray which permits the application of antibiotics in their pure powder form to the tissue surfaces. The technique is simple and consists of a high concentration of the antibiotics suspended in dichlorotetrafluoroethane. This propellant has proven itself particularly suitable for use in the medical field, due to it being non-inflammable and nontoxic to body tissues.

The advantages of this method of delivering antibiotics for local use may be summarized as:

1. The antibiotics are suspended in the propellant in their pure state. There is, therefore, no risk of loss in potency due to any possible chemical reaction from a base.
2. Unlike solutions of antibiotics, the dry powder is perfectly stable.
3. The fine spray of powder produced under pressure permits even diffusion and penetration over the area under treatment.
4. The positive pressure exerted by the propellant prevents the entry of any contaminating air into the spraying apparatus. Therefore the antibiotic is delivered from a virtually sterile source.

OWING to the danger of the development of antibiotic-resistant bacteria it is highly important to avoid the topical use of any antibiotic which is of value for systemic use in the treatment of serious bacterial infections. There are, however, three important antibiotics—Neomycin Sulphate, Zinc Bacitracin, and Polymyxin "B" Sulphate which, owning to risks of toxic reaction, are rarely given systemically. However they are perfectly safe when applied locally because they are so poorly absorbed by the tissues.

When used in combination these antibiotics exert a bactericidal action on a wide range of pathogenic bacteria associated with local infections. All three are incorporated in the aerosol spray under review (which is known by the proprietary name "Polybactrin."

Clinical assessment of this new aid to surgery is still in progress. However, results reported to date indicate that it will be of great value as a prophylactic and treatment for established infections in practically every branch of surgery.

Perhaps the most dramatic demonstration of the value of this technique has been in connection with the treatment of burns—especially those covering an extensive area. The wide diffusion of the highly potent antibiotics allows the area to be kept dry and free from secondary infection. Healing is found to be accelerated, and with no interference with the surface (should skin grafting be considered necessary).

Another wide potential application is in surgical practice. It is apparent that the technique would be of immense value in connection with the surgery of infected or potentially-infected tissues. Used prophylactically it can reduce considerably the incidence of sepsis in "clean" surgical cases. The use of the aerosol spray for this purpose can do much to reduce the high incidence of post-operative infection due to the dissemination of antibiotic-resistant bacteria (the most important species of which is the staphylococcus aureus) which is presenting a problem to hospitals throughout the world.

THE prophylactic use of the spray involves the spraying of various layers of the tissues of the operation site, a practice that has been shown to reduce markedly the incidence of wound infection. Thus in abdominal or perineal surgery the adoption of this technique is invaluable.

(*Continued on Page* 65)

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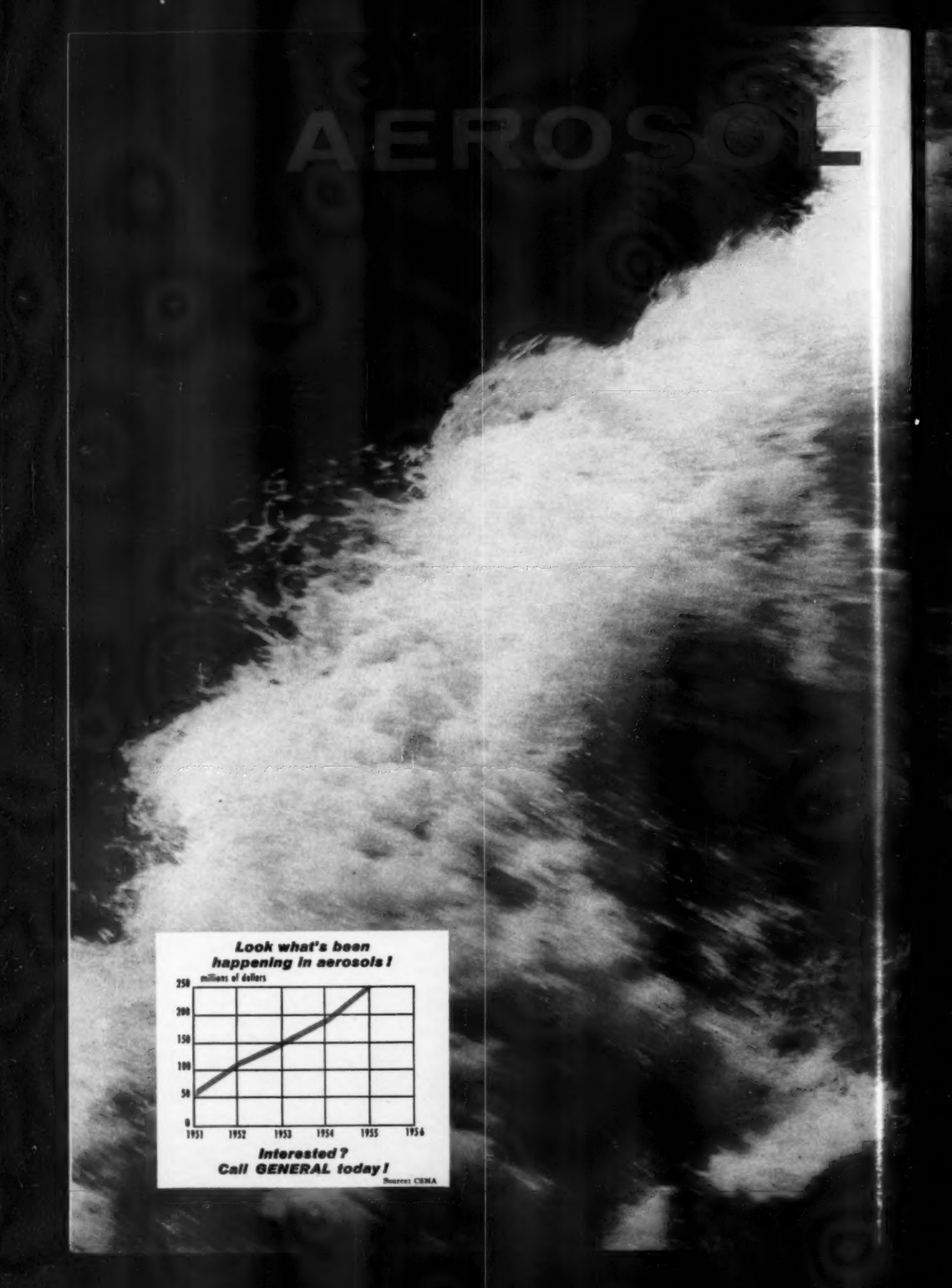
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New Products and Packages

• **Menthol Aero Shave Push-Button Lather,** a product of Boyle-Midway, Inc., New York, was introduced last month as the "lowest priced aerosol shaving cream on the market". The light green container will retail at 59c. It contains three beard softeners plus lanolin.

• **Streaks 'N' Tips** was brought out last month in a brand new container by the Nestle-LeMur Co., New York. The product is a temporary hair color that shampoos out, and in addition to gold and silver, is available in black, brown and auburn. It retails at $1.00 plus tax.

• **Golden Yellow Shaving Cream,** a new product of the J. B. Williams Co., Glastonbury, Conn., was first marketed nationally last month after some extensive consumer surveys. On the strength of the surveys, which indicated a 2-1 preference for creams containing lanolin, Williams brought out its new lanolin-rich shaving creams at a retail price of 79c.

• **Nasal Nozzle,** an aerosol spray with a metered valve, was introduced recently by Valve Corp. of America, Bridgeport. Aimed at the head cold, sinus, hay fever sufferer market, the two-piece dispenser delivers spray dosage in amounts from 50 mg. The company points out that the package is leak proof, and can be used for antihistamines, antibiotics, ephedrine, and other drugs.

• Two new aerosol products by O-Cedar, Division of American Marietta Co., Chicago, are **Sea-Spray,** an oven and grill cleaner, and **Endust,** a dust-mop and dust-cloth spray. The containers are Crown's new spra-tainer, whose seamless construction permits wrap-around lithography.

• **Preservatol** and **Polyglo** Metal Polish, both packed in Crown containers, are two new products of Kensol Corp., Allentown, Pa. The metal polish removes rust and tarnish while **Preservatol** protects metals from rust, tarnish, and corrosion with a microscopic film. Both retail for $1.89.

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Lanolins for Aerosols....I

By Irving Colbert
N. I. Malmstrom & Co.

WITH the ever increasing interest in lanolin and lanolin derivatives as a source of emollience in cosmetics and pharmaceuticals, it is estimated that today at least 50% of the cosmetic items produced annually contain some derivative of lanolin, or lanolin itself. In addition, with the rapid acceptance by the consumer of the aerosol type package, (according to the latest projected figures given at the last Chemical Specialties Manufacturers Association meeting, 1960 will see 600,000,000 aerosol units sold), shampoos should in a very few years claim $50 million in sales; and hand lotions and creams some $20 millions. Unfortunately, figures for items such as hair sprays, deodorants, anti-perspirants, shaving creams, after-shave lotions, pre-electric shave lotions, depillatories, suntan lotions, and numerous other products are not available. Nevertheless it may not be too long—if the projected figures are correct—before the bulk of cosmetics and toiletries will be marketed in aerosol containers.

With the ingenious advances made by the cosmetic chemists, raw material suppliers, aerosol loaders, and aerosol container people, the unique emollient lanolin, and its newer derivatives, should find themselves once again the leading natural emollients in this relatively new-type package.

Lanolin, in its purified grades, is a complex mixture of complicated organic compounds known as steroid esters. These esters are closely akin to the natural oils exuded by the glands of our own skin—which is one of the main reasons why lanolin and its derivatives are valued so highly. The precise composition of lanolin is not yet fully known, but considerable work has been done to determine its various components. Briefly, 34 alcohols have been identified, only approximately 78% of the total lanolin alcohol fraction, and 36 fatty acids, which is 86% of the total lanolin fatty acids recovered by careful saponification and analytical procedures. Cholesterol and its saturated derivative, dihydrocholesterol, exist free and uncombined in lanolin to the extent of 1-2%. However, the total cholesterol content in lanolin, which is the free and combined, runs about 15-17%.

ANHYDROUS lanolin U.S.P. has a limited solubility in the solvents ordinarily used in cosmetics and pharmaceuticals. A transparently clear lanolin solution is, at times, unattainable with the concentrations of lanolin necessary to achieve satisfactory emollience. With the progress made by the packaging industry, many more aerosol items will be packed, in the not too distant future, in transparent containers for appeal. In order not to defeat the aim of the package, it will be desirable to formulate products which are transparent, so as to enhance the packaging elegance. Many preparations today (especially in the hair spray field) depend upon mutual solubilization of ingredients to assure homogeneity, uniformity, efficient atomization, and stability. A product which will exhibit clarity for a long period of time is one that will give the formulator the least trouble or uneasiness. Sedimentation or cloudiness can also be the cause of clogging of the valves, and perhaps prevent uniformity of

This article will be the first of a series on lanolin and lanolin derivatives for use in cosmetic aerosols. Each of the articles will be by, or about, a leading lanolin producer, and will concern itself mainly with the specific applications of various products for pressurized packaging.

When your customer sees—and smells—how quickly and effectively MEELIUM works, how *spring fresh* it makes the air, it can mean more sales for you.

MEELIUM works effectively because it neutralizes and *destroys* both organic and inorganic odors completely—it doesn't merely cover them up. And it can do the job in an average-sized room in from 3 to 5 seconds—your customer will like this kind of economy, too.

MEELIUM in suggested concentrations is chemically stable, non-corrosive, and about equal in toxicity to pyrethrins. It is supplied to the aerosol industry as a 60% active deodorant.

MEELIUM is practically odorless. If a fragrance is desired we suggest a maximum of .1% of a suitable perfume.

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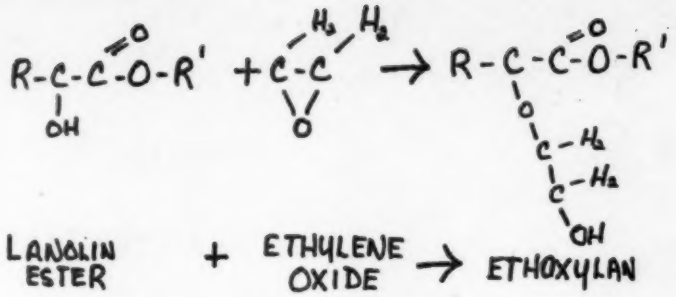
application, as well as making unsightly the product's appearance in the container.

Many of the aerosol hair spray products marketed today are liquid preparations containing water or alcohol (or combinations of the two as co-solvents) combined with film formers and emollients so as to enhance lustre and manageability of the hair. In order to meet the above solubility requirements of an emollient such as lanolin, it was necessary to develop a product which would offer the advantages associated with anhydrous lanolin, but none of the disadvantages such as stickiness, limited solubility in alcohol and water. "Nimco Ethoxylan" exhibits the set requirements.

The addition of ethylene oxide linkages to the hydroxyl portion of the hydroxy esters found in the lanolin molecule results in the formation of a newer useful lanolin product for aerosol application.

This reaction changes a water insoluble lanolin to a water and alcohol soluble lanolin derivative, from a foam depressant to a foam enhancer. It is an entirely new form of lanolin, completely soluble in water with sufficient solubility in ethyl alcohol, isopropyl alcohol, and the organic solvents usually employed in the cosmetic and allied fields.

Its emollient properties are similar to those of anhydrous lanolin and it is available as a transparent golden, free-flowing viscous liquid containing 50% active material; or as an anhydrous golden non-tacky solid.



Chemical Reaction in Ethoxylan Manufacture

"Nimco Ethoxylan" will produce crystal clear solutions in water and in various water and alcohol combinations. It is a non-ionic surface active agent, stable to acids, alkalies, and electrolytes. Thus it is possible to utilize the well known properties of lanolin in a solution form as distinct from the normal water-in-oil or oil-in-water emulsion form.

A product such as "Nimco Ethoxylan," with its solubilities, emollience and substantivity, can readily find its place in numerous cosmetics, pharmaceuticals and toiletries. By virtue of its inherent foaming action, it also proves an excellent natural emollient as an additive to a shampoo formulation. Currently accepted applications are — shaving creams, pre-electric shave lotions, after-shave lotions, nail polish removers, shampoos, hair sprays, and numerous miscellaneous products.

In the case of emulsified aerosol preparations "Ethoxylan" can serve a dual purpose, as an emollient and auxilliary emulsifier; since it exhibits non-ionic surface active properties.

Another recent advance in the lanolin field is the development of the oil soluble liquid lanolin, "Lantrol*." This form of lanolin, prepared by a patented fractional crystallization process, separates anhydrous lanolin U.S.P. into two components—a liquid oil soluble fraction, Lantrol, and a solid fraction, "Lanfrax*." Both fractions will meet specifications for U.S.P. lanolin, with the exception of the melting point. These newer, non-sensitizing lanolins are ideal products as a source of emollience and skin moisturizing agents in cosmetic emulsions (especially if they are to be packaged in aerosol containers) since they have been proven compatible with the customary propellants employed.

Writing as a cosmetic chemist, one must always keep in mind that it is important to have appropriate raw materials to formulate a product, and that emphasis should be placed upon care of manufacture and formulation. Thus the advances in the packaging industry place considerable added responsibility on the products development chemists and technicians of the raw material companies and finished goods houses. It is they who must make available and adapt new ingredients which can fully utilize the advances in the related industries, without any sacrifices in cosmetic effect and application.★

*Lantrol and *Lanfrax — Malmstrom Chemical Corp., Newark, N. J.

SOLUBILITY OF NIMCO ETHOXYLANS (Grams per cent.)

	ETHOXYLAN 100	ETHOXYLAN 50
Water	Complete	Complete
Anhydrous Ethyl alcohol	3	—
95% Ethyl alcohol	3	6
30% Ethyl alcohol	Complete	Complete
25% Ethyl alcohol	Complete	Complete
Methanol	<1	—
99.5% Isopropyl alcohol	15	25
25% Isopropyl alcohol	Complete	Complete
Acetone	4	—
Ethyl Acetate	15	—
Ethylene glycol	50	—
Toluene	25	—
Hexane	Insol.	—
Mineral oil	Insol.	—
Corn oil	Insol.	—

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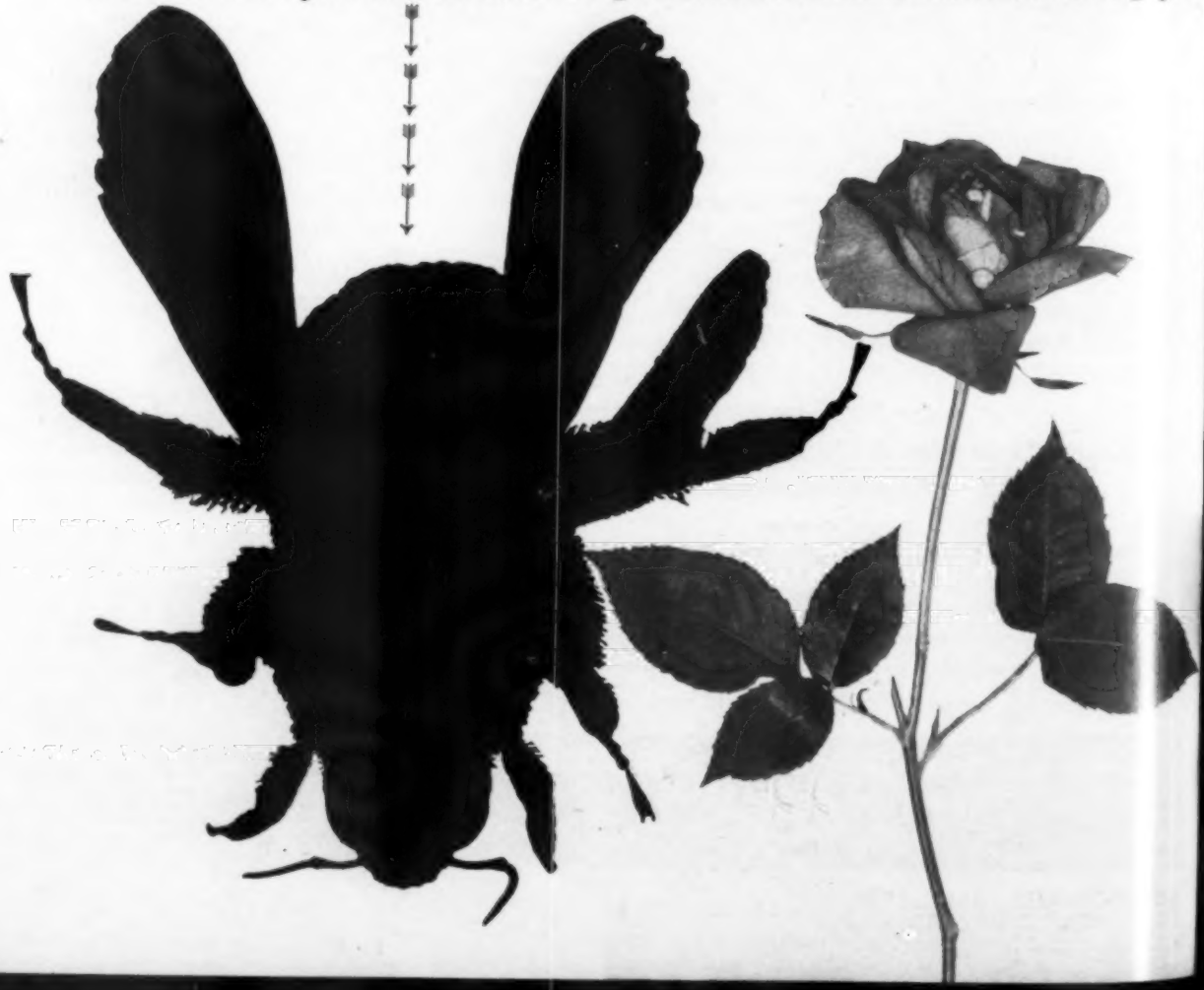
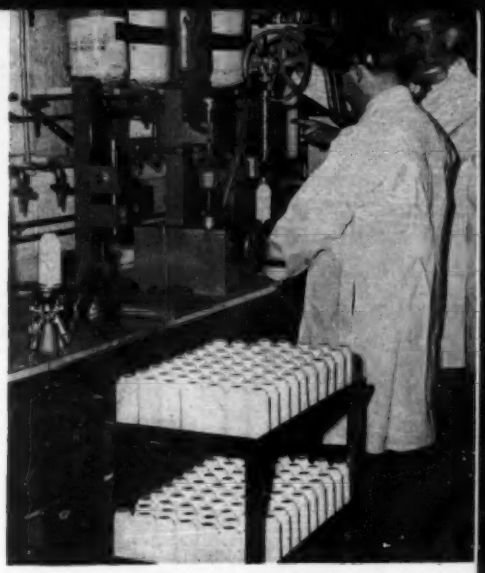


Aerosols Go To College II

Philadelphia College Institutes Course In Pressurized Packaging



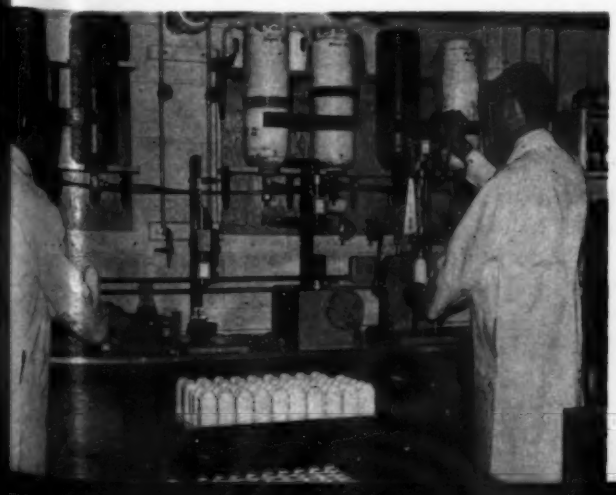
Dr. Martin Barr (right) instructs a graduate student in pressure loading a container with propellant.

The March issue of *Aerosol Age* carried another article describing a similar course at the School of Pharmacy of the University of California Medical School, San Francisco, calling that course "one of the first in the entire country." It now appears that Philadelphia College has a similar and perhaps an earlier claim to fame.—Editor.

A PROGRAM for the study of aerosol dosage forms has been instituted at the Philadelphia College of Pharmacy and Science, according to an announcement made last month by Dr. Ivor Griffith, president of the college. The project is being undertaken in the Department of Pharmacy, directed by Dr. Linwood F. Tice, and the aerosol program is in charge of Dr. Martin Barr, associate professor of pharmacy.

The aerosol program was initiated at the college in 1956 with the assistance of the "Freon" Products Division of E. I. Du Pont de Nemours & Company, Inc. Other manufacturers of propellants, containers, valves, and aerosol equipment have since cooperated in the program's development.

It is planned to include instruction on aerosol products in both the undergraduate and graduate programs at the College. At the undergraduate level, instruction on the formulation and packaging of aerosol preparations will be given to the pharmacy students. The administration of the college considers this essential because of the increasing number of pharmaceuticals appearing as aerosol products. "It is also very likely that the practicing pharmacist of the near future will be called upon to prepare this type of dosage form in his pharmacy and he should be trained for this work," a college spokesman points out.



A graduate student (left) fills containers with a solution of active ingredient as Dr. Barr pressure loads the filled containers with propellant.

At the graduate level, more detailed instruction on the phenomena involved in the preparation and functioning of aerosol systems is already being given. Graduate students carry out basic research on these systems as they apply to medicinal formulations. Little is known concerning such phenomena as the solubility of various drugs and their vehicles in propellants, the stability of drugs in solvent-propellant mixtures, and the therapeutic effect of medicinals administrated as aerosols. Studies on these problems as well as many others, are currently being carried out or planned for the near future.

The aerosol equipment at present included in the pharmaceutical research laboratory includes both a cold filling and pressure filling unit, bottle and can crimpers, and pressure testing apparatus. A collection of representative containers, both cans and bottles, and valves, used in packaging aerosol products, is available on display.

Dr. Griffith declares:

"It is the objective of the College, in instituting this pioneering program in aerosol studies, to aid in a better understanding of the problems involved in the preparation of aerosol dosage forms and to stimulate investigations as to the feasibility of administering many different classes of drugs in the form of aerosols."★

National Packaging Exposition In Chicago

Aerosol Filling Line, New Components and Techniques Highlight Industry's Exhibits

MORE aerosol industry representatives than ever before will be present at the 26th National Packaging Exposition April 8-11. The exposition, to be held at the Chicago Amphitheatre, will have a total of 375 exhibitors, and for the first time in the history of any packaging show will feature a complete aerosol filling line in operation.

An attendance of 30,000 is expected, and officials have estimated that visitors will represent close to 9,000 companies in various phases of the packaging field. The exposition will take up three acres of the Amphitheatre's South Hall and Exposition Hall, with admission free to anyone with a business affiliation. For out of town visitors, 17 of Chicago's leading hotels have set aside rooms.

Running concurrently with the exposition, the American Management Association will hold its 26th annual National Packaging Conference at the Palmer House, Chicago. This conference will explore the entire packaging field, emphasizing research, design and development.

Following is a list of exhibitors in the aerosol field, including details of exhibit, personnel in charge, and hotel headquarters:

American Can Co. Booth 1005. Hotel: Blackstone. The display will feature Canco's 202 and 211 aerosol containers and depict their development. Personnel: C. S. Stephens, J. F. Holland, K. W. Brighton, and J. Fredette.

Chisholm Ryder Co. of Pennsylvania, Booth 859. Hotel: Harrison. A New Way Model V-4 Adjustable labeling machine will be exhibited. Personnel: J. P. and R. Louderman, G. R. Williams, W. B. Sanford, W. Reimer, H. G. Manley, K. B. Severson, and E. J. Abendschein.

Continental Can Co. Booth 833. All types of pressurized and conventional containers will be on display.

Crown Cork & Seal Co., Inc. Booth 806. Hotel: Palmer House. An exhibit on Crown's contribution to the American way of life, to include three new aerosol products—two in the food field and a third, a general household item. Personnel: J. J. Nagle, R. Gowans, C. E. McManus, S. V. Tuttas, and J. H. Scherer.

Elgin Manufacturing Co. Booth 1253. The Elgin twin filler for ingredient fill of aerosols, plus wrapping and capping machines will highlight the exhibit. Personnel: G. R. Stevens, A. R. Stevens, E. E. Johnson, W. E. Jensen, D. M. Webster, and W. B. Sanford.

General Chemical Division, Allied Chemical & Dye. Booth 794. This exhibit will feature an information and literature center for all packagers interested in pressurized packaging. Up-to-date technical information on "Genetron" propellants, and techniques in filling will be explained by the company's technical staff.

Gottscho, Adolph, Inc. Booth 1138. Hotel: Sheraton - Blackstone. Coding, wrapping, and a variety of marking machines will be on display. Personnel: I. Gottscho, E. Coughlin, W. Tofel, M. Hirschey, and A. Jacks.

Hope Machine Co. Booth 1211. Hotel: Bismarck. Feature of the exhibit will be an improved 4 line Type 19A filling machine in operation, as well as a single piston 15 MS filling machine and a 19S-2 line piston filler. Personnel: L. H. Kinsley, J. Barry, C. McLaughlin, and R. J. Keller.

Kiwi Coders Corp. Booth 660. A new power-driven machine for code dating the concave bottoms of aerosol cans. Personnel: J. McKay, K. Madsen, C. Perlman, and B. Gill.

MRM Co., Inc. Booth 1170. Hotel: Sherman. Exhibit will feature a demonstration of a new rotary labeling machine, as well as semi-automatic, and automatic fillers. Personnel: H. D. Manas, F. Rossetti, R. J. Manas, R. Mishkin, and R. J. Dealy.

Mojonnier Associates, Inc. Booth 876. A complete filling line will be operated, and will feature Mojonnier's new refrigeration system and glass crimper. In addition to this company's equipment, *DuPont, Continental Can* and *National Plastics* containers, *DuPont's* "Freon," *Fluid Chemical* cologne, and *Risdon* caps and valves will be featured. Mojonnier personnel will be: A. B. Mojonnier, K. Karnopp, R. G. Hill, E. H. Zellar, C. Allen, J. Bader, J. Watson, W. Barbick, and F. Craig.

Sterling Seal Co. Booth 1115. Hotel: Congress. Protective aerosol caps, mounting cups, and a variety of metal closures will be featured. Personnel: E. L. Travis, C. G. Gardner, W. Frank, J. Michell, W. Brown, and F. S. Patton.

Really going places since he cut costs on all these products with Dow Methylene Chloride

While he's resting on his laurels, let's take a look at how Dow methylene chloride can save money on your products.

As a pressure depressant in aerosols, it replaces propellant "11" at a substantial savings in ingredient costs. Take for example room deodorants, insecticides, protective lacquer coatings, oven cleansers and paint removers. The use of Dow methylene chloride has lowered formulation costs in some of these products by as much as two cents per unit!

But economy isn't the whole story. Dow methylene chloride is an excellent solvent for the active ingredients in many aerosols . . . often permits elimination or reduction in the use of solvents with objectionable odors. And it's a safe solvent—nonflammable and low in toxicity—as well as one of the most stable.

Our new Dow methylene chloride booklet contains comparative cost figures and other useful information. Write for your copy today. THE DOW CHEMICAL COMPANY, Midland, Michigan, Department SO 1024M.

YOU CAN DEPEND ON DOW

AEROSOLS

...in Review

THE "Aerosol Corner of *D&O News*, a monthly publication of Dodge Olcott, Inc., New York, is devoted to a discussion of "Meelium," which it says has evoked a high degree of interest in recent months.

"Meelium"* is described as a chemical "which possesses true deodorant qualities, and through a sodium salt chemical reaction, has a tendency to neutralize decomposed odors. The concentrate is chemically stable and will not separate, or decompose at either high or low temperatures. When dispersed into the atmosphere, in the form of a fine mist, Meelium has the remarkable property of destroying both organic and inorganic odors, usually associated with humans, animals, food, etc."

The article then points out that Meelium's consumer appeal is enhanced by the addition of perfume oils. "This low odor characteristic also makes it possible to use almost any type of fragrance ingredient that the individual manufacturer may desire, including the most delicate of perfumes."

A typical general formula for a Meelium-type space deodorant is given as:

15% Meelium Solution
85% Propellant

100%

0.1 to 0.5% Perfume

As a recommended procedure for use of such aerosols, the author advises directing the spray mist toward the ceiling, allowing approximately three to five seconds spraying time for the average room; and repeating when necessary. In the case of localized odors, it is recommended that the mist be directed at the source.

*A product of Prentiss Drug & Chemical Co., New York.

THE efficiency of the aerosol packaging line at Stanley Home Products, Inc., Easthampton, Mass., is the subject of a seven-page illustrated article by Lawrence V. Burton in the December issue of *Package Engineering*. The author describes a filling installation, functioning with a speed of 110 aerosols per minute, which is maintained with only 12 employees, "counting everybody from the man who feeds the conveyor from can storage to the man who places the finished goods on pallets."

Mr. Burton declares that the current number of line employees may be reduced to a total of ten (if current trials are successful)—as compared with 15 to 20 employees utilized in other similar installations throughout the country. This saving in personnel has been accomplished with no apparent loss of line efficiency, and such an important item as propellant loss has been kept to a figure of about 6%.

He describes how Stanley's decision to go into its own packaging was based on a desire to maintain quality control throughout its range of products. "The real reason for deciding to do its own packaging, however, was to provide employment in an area where employment possibilities were diminishing due to the steady movement of industries from New England to other parts of the country."

"When the line was first started the sales volume of Stanley's aerosol products would keep the line busy only 13 weeks out of a year. Sales have increased since that date, and new products, developed in the company's own aerosol research laboratory, have been added to the line to the point where the line is now busy about 26 weeks out of a possible 52 weeks in a year, and sales volume continues to grow.

"The important matter to understand is that the line of aerosol products was profitable even with only 25% of its capacity being utilized. This is another example of the trend to profitable use of high-speed lines that are not operating all the time. This seeming paradox is possible only under specific conditions; namely when a high-speed line is idle, it must be possible to make profitable use of the idled employees in some other activity.

"Otherwise a high-speed line used to only a fraction of its capacity would be a waste. Since the 'justification cost' of an employee is about $5000 a year, it is easily seen that twelve employees idled at $5000 a year each for three-quarters of the time would cost the company $45,000 during the idle time of the line. This could easily exceed all possible profit unless the $45,000 could be allocated to some other profitable activity."

Mr. Burton discusses some of the economic savings effected by the various machinery used and techniques developed by Stanley Home Products

In this section we will regularly abstract the increasing number of articles on aerosol topics which are beginning to appear in various trade publications. While many of the articles are necessarily introductory in character, and often include considerable material already quite familiar to those in the aerosol business, it is felt that a useful purpose will be served by setting up a central clearing point through which it will be possible to keep track of what is being written on aerosol topics. It will be helpful if readers will call our attention to articles which we may miss. *The Editor.*

engineers' outlining the duties of each of the personnel on the 264-foot long refrigerated filling line.

He describes Stanley's method of rotating jobs on the filling line: "In order to relieve the monotony of the high-speed repetitive work, a scheme is utilized of 30-minute rotation on all jobs except that of filler operator. In addition to the rotation scheme, the company has ten-minute rest periods in mid-morning and mid-afternoon."

THE February issue of *Schimmel Briefs*, monthly technical publication of Schimmel & Co., New York, is devoted to a comprehensive report on pressurized suntan creams. The article begins with the premise that "In some cases emulsions employed in conventional bottles may be suitable for pressurized packaging, but in others a different type of formulation will be required. The emulsifying agent may not give the desired stability when the cream is in contact with the fluorinated propellant. The viscosity of the emulsion must also be taken into consideration. A cream which is too thick will not mix readily with the propellant and the product then comes out of the dispenser in spurts instead of expanding into a foam."

"Filtrosol A," a Schimmel product, is recommended as a representative oil-soluble sunscreen which "lends itself to the formulation of stable pressurized creams." The following formula is offered, although it is suggested that the publication's readers "doubtless can improve on it."

Suntan Cream for Aerosol Packaging

Filtrosol A	8.0
Stearic acid	1.7
Triethanolamine	0.8
Mineral oil	6.0
Propylene glycol monostearate, self-emulsifying	3.4
Water, distilled	80.0
Methyl *p*-hydroxybenzoate	0.1
Perfume	0.4

Procedure: Combine Filtrosol A, stearic acid, mineral oil and propylene glycol monostearate and heat to 90°C. on a water bath. Dissolve triethanolamine in half of the water, heat to 90°C. and add slowly to the oil phase *with very gentle stirring* to avoid incorporating air in the emulsion. Add the methyl *p*-hydroxybenzoate to the remainder of the water, heat until it dissolves and add the solution at 90° to the emulsion. Continue careful stirring until the cream cools to about 40°C., then add the perfume and stir until it reaches room temperature. Pack with 8-10% (w/w) of a suitable propellant.

In a formula of this type, the article declares, "The perfume must cover, or at least modify, the minty odor of 'Filtrosol A.' Certain perfume compounds, such as those of the clover group, are unsuitable," it is pointed out, "because they tend to accentuate the odor of the sunscreen. Other types of perfume cover the odor quite effectively at fairly low concentrations." "Romanis K1190" (a Schimmel product) is the perfume suggested in the above formula. It is a bouquet which blends with the "Filtrosol," giving a sweet but indefinite fragrance to the cream. Heavy perfuming should be avoided, it is recommended, as the odor can be overpowering when the cream is applied to large areas of the body.

The article suggests that suntan cream be packed in metal aerosol containers which "are recommended by the suppliers for packing foam products. These containers are lined on the inside with a lacquer or plastic coating to prevent corrosion by aqueous compositions."

On the subject of propellants, it is warned that mixtures of 11 and 12 "which are often used in anhydrous aerosol formulations, are not suitable for pressurizing foam products because of the instability of propellant 11." Such mixtures react with the water in the emulsion, causing "corrosion of the container, deterioration of the perfume, and other undesirable changes in the product." The article points out that a mixture comprising 57% of propellant 12 and 43% of Freon 114 (Genetron 320) is one which has proved satisfactory for pressurized suntan creams.

The Givaudan Flavorist, technical periodical of Givaudan Flavors, Inc., New York, recently featured an article entitled "Aerosols and the Food Industry, I. Beverages," in which a number of specific technical problems having to do with propellant, ingredients, etc. are discussed. The article appears in the *Flavorist*, No. 1, 1957.

The article points out that "It is not feasible to recommend a specific propellant (or mixture) due to the fact that the final selection is based on the nature of the material to be pressurized and its end use. We must take into consideration the ability of the basic constituents of the formulation to absorb a specific propellant. The selection of the propellant is, therefore, wholly dependent on the product to be packaged."

"The high pressure of the propellants available for food aerosol use and the fact that they inhibit weight quality control in the completed container must also be considered. Since the available propellants have a pressure of approximately 825 pounds per square inch, the actual amount incorporated into this type of pressurized product is extremely small. An error of 1% in loading the principal (the material to be dispensed) would give a deviation factor greater than the amount of propellant used in most cases. The loading of syrups is accomplished by having an approximate gauge pressure on the loading equipment of 110 to 120 pounds per square inch. This pressure depresses the valve and allows the syrup to enter the container. Agitation of the unit insures proper absorption of the propellant in the principal.

. . . "There are certain advantages in using these high pressure propellants since the small amount in which they are used to charge food aerosols necessitates only a slight expenditure per aerosol on the part of the manufacturer. However, it must be also pointed out that a critical loading factor is also present in view of the fact that any propellant loss would render the container inoperative."★

•

Buckman in Research Post

A. F. Buckman was recently appointed assistant director of the research and development division of S. C. Johnson & Son, Inc., Racine, Wis. He joined the firm in 1946 and prior to his new appointment was production control manager.

Consultant's Corner

by Robert A. Foresman, Jr.

Safe Handling of Flammable Propellants

OVER the last few months I have received a considerable number of inquiries regarding proper safety practice incident to the use of the pure hydrocarbon gases as propellants. Obviously, if there are any questions on the subject, answers must be forthcoming or serious consequences could result.

Before I go into any details at all, one important point should be emphasized. Anyone who undertakes this type of packaging will want to be covered by specific insurance for it. The ones who have already attempted to get (or have gotten) coverage, will, I am sure, corroborate the following comments. First, coverage is expensive. Second, preparations for coverage are expensive. Third, each underwriter has his own idea of how far toward ultimate precautionary measures a given condition must go for coverage.

In case there are some who are not aware of the true situation that exists with these hydrocarbons, even in the course of normal handling, a word of explanation may be worthwhile. By reason of their low vapor pressure which of course makes them function as propellants, they are very volatile and will evaporate rapidly. However, their change of state from a liquid to a gas is the crux of the whole safety problem. The vapor is heavy and will flow into low spots in the architecture, sink traps, stairwell bases, access trenches, basements, etc. It will also penetrate into the innermost parts of normal electrical fixtures and equipment. Obviously, any spark or other source of ignition may ignite the vapor, which will forthwith explode. Switches, static electricity, steel shoe nails scraped on cement floor, impact of steel tools against steel or concrete, careless handling of matches, or even the working electrical circuits of laboratory or plant (apparatus ordinarily not considered unsafe) all can cause trouble. The General Electric Leak Detector, which has a hot wire grid over which atmosphere samples must be drawn is a good case in point. Incidentally since this tester requires the presence of halogens in its sniffed samples or it will not indicate, it should not be used around pure hydrocarbon lines

IF use of flammable propellants in plant operations is contemplated at all, there is only one approach—everything from flashlights up or down should be designed for vapor safety. As it happens, I cut my industrial eye teeth in the smokeless powder industry, where vapor safety becomes a way of life and where ordinary budgetary concepts are useful only as fond memories. The simple matter of safe switches to turn a light on or off may run to fifty or seventy-five dollars—this not including wiring or the light fixture. A cast iron, gasketed motor starter box will cost close to ninety dollars, and every conduit fitting must be filled with potting compound. All tools must be beryllium bronze — including pipe wrenches and tin snips. Shoes must be nailless and have conductive soles so that static will not accumulate on a worker's clothes or body. Sprinkler systems, explosion-proof architecture, fire blankets, fire drills, etc., all are very much in the picture, whether or not they are considered by the packager.

Usually the inquiries begin with: "How can we arrange to do just a little butane filling in our laboratory?" I generally hesitate even to admit that it can be done; but for the sake of accuracy, it admittedly is possible if maximum precautions are strictly observed. Before anything else is considered — vagrant vapors must not be allowed to escape to the laboratory proper and venting of vapors to the outside atmosphere in a safe location (i.e. not where they can accumulate into service station work pits, etc.) is an absolute necessity. The source of hydrocarbon vapors in the laboratory should be isolated under a negative pressure hood, which has a barrier across its open front tight against the work top. This prevents cascading of vapor out of the front of the hood, where the suction could possibly fail to pick it up. The hood itself must be arranged with either an explosion proof motor or with belt and pulley drive (with the motor located at an adequate distance from the ducting).

IN addition to the measures taken to prevent the possibility of flammable propellants escaping into the laboratory, it is wise to make use of one of the various indicating instruments to sample the atmosphere from various locations in the laboratory for the determination of flammable vapor content. Portable instruments are available at a relatively

(*Continued on Page* 65)

Mr. Foresman left March 21 for an extensive tour of European aerosol plants. In his future columns he will be writing about differences in U.S. and European technical approaches to pressurized packaging.

WHICH TO USE

WHEN TO USE

HOW TO USE

THE KNOCKDOWN POWER OF

Pyrethrum

AND

Allethrin

IN AEROSOLS

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We are interested in knowing if, when, and how we should use Pyrethrum or Allethrin in our ☐ Aerosols.

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Pressure Packaging Overseas

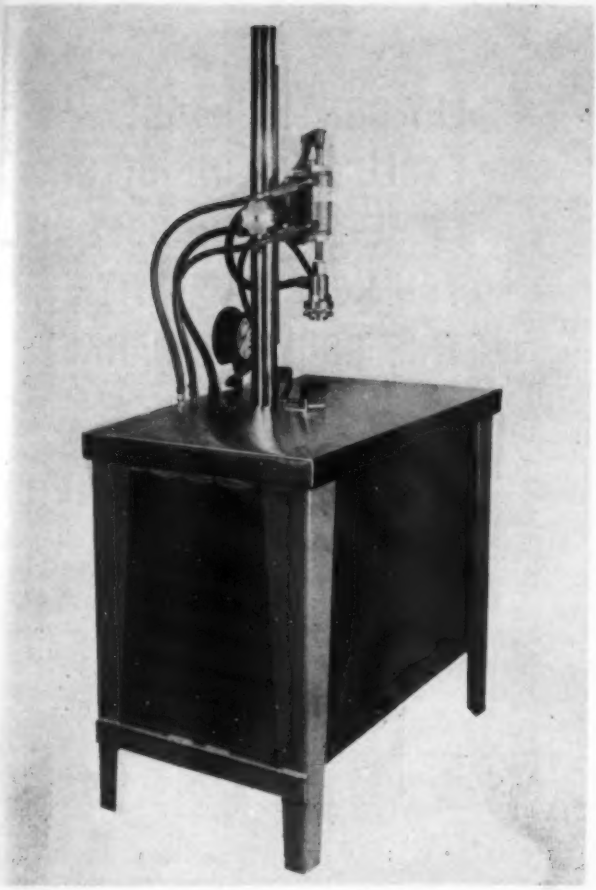
Dr. Tom C. Clark of Druk-Pak, Ltd., Zurich, at the end of his American visit, reports on some revised impressions of the U.S. aerosol industry; and reevaluates the "middle man."

AFTER these many years, first impression comparisons are dangerous. The automobiles in the U.S. have grown so big and the streets so small—like the narrow old-city European streets through which one can scarcely get a European car—and even the resturants now blow their odours out on you as you pass on the street. Privacy seems almost to have disappeared—to have become one of the lost arts. As we remembered, personal privacy used to be a game, a kind of sport, but it seems to have gone down the drain. Principally, we fear, because one can't keep score on it in figures. And we have been impressed by the figures. Along with everything else they are immense. What, indeed, would happen if we could not keep the score?

It is such a far cry from our peaceful Swiss mountains, to a New York rush-hour subway that we probably should really not make any comments, but we cannot refrain from mentioning a few impressions. The contrasts are strong. Our European aerosols use the same kinds of containers, the same valves and propellants. They spray with the same effectiveness. We load and pack them in the same ways, but we in Europe don't have them in such vast number under the buyers' very noses (with scarcely space to receive your change across the counter). So our first impression is the tremendous size of the American industry, and our first contrast, the consumer's aerosol consciousness.

All man-made structures, regardless of peoples, nations or hemispheres, have common starting points. The political structure starts with the individual, the social structure with the family and the economic structure, the market. No market, no production. No production, no distribution. No distribution, no credits, no advertising, etc., etc. Without the market there is no industrial activity and no jobs, no unions. But once the market exists, the wheels commence to turn, and when this happens in the United States, look out! Little wheels start larger wheels, which start still bigger ones—leading to whole systems of wheels until even space seems to swell. Once set in motion one cannot shut them down. No other people in the world know more about these wheels and the markets which begin and lubricate them than the Americans. In our overseas countries the market is the manufacturers' distant mystery—a vague empire of his own subjective impulses which he reaches only through independent distributors who themselves jealously guard the secret. Not so in the United States. Along advertising row we understand it is called "buyers consumption"—a new form of American tuberculosis for which, apparently, there is as yet no known specific cure. Our second impression, then, is the size of the market and our second contrast, the terrific promotion to keep it expandingly stimulated.

IN all truth, except for size and volume, some manufacturing techniques seem to leave a bit desired. Personally, we can not get up any more enthusiasm for loading aerosols under a tent than we can for sleeping under one of them. This may be due to our advancing years, but we doubt it. Something seems to have gone wrong with the planning, both in construction and machine delivery. From what we hear, delivered machines have often had to be re-built, and much of it seems to have been self-constructed. Lay-out drawings are hard to come by and detailed operating instructions do not seem to exist. Special engineers are offered at around $50 per day (plus first class expenses) to install and instruct in the machine's operation. This is understandable in the huge U.S. market (where a quick telephone call can settle a valve's adjustment or a reassembly problem), but when the machines are thousands of miles away behind custom walls and censors, shut-down time has an entirely different meaning. With even the swiftest air freight a loader might wait weeks for some simple gasketing material. European loading equipment



1. (Top) Propellant injector is capable of up to 30 injections a minute and is equipped with safety cycling devices which prevent repeated injection on the same container. The height of the head can be quickly adjusted to accommodate any size closure. This unit is air operated and electrically controlled.

J G MACHINE WORKS OFFERS PROVED LINE OF FILLING MACHINES

● *Successful use by many companies in the Aerosol field is expanding sales for this enterprising concern.*

JG Machine Works' line of aerosol filling equipment is winning commendation from all quarters of the industry. One of the unique features of this line is that the principal components can be purchased as individual semi-automatic units or can be supplied fully-automatic in longer table units, combined with other operations. Also, any JG component can be inserted into any existing automatic line.

The accuracy of the propellant injector unit is notable. Injections down to 5 grams have been accurate to plus or minus .75%. Injection capacity ranges up to 300 cu. cm. of liquid.

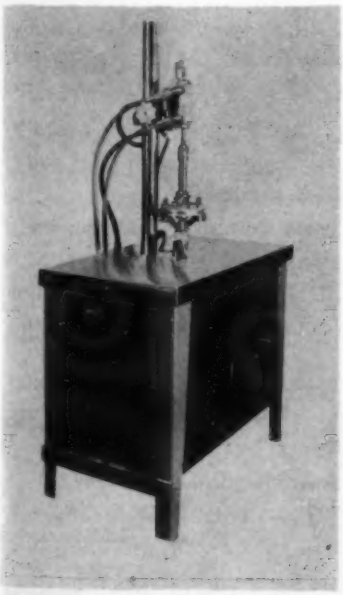
Both the propellant injector and universal closure spinner are easily adjusted to take any standard closure. A complete line of adapters to fit all standard container valves is available for use with JG components.

Other JG Developments

In addition to the equipment pictured, a single and double cylinder product fill, purging units, crimper, and presto tester are also available. The presto tester, an especially useful and compact item, can be used at the production line or in the laboratory to maintain a constant check on internal pressure of containers.

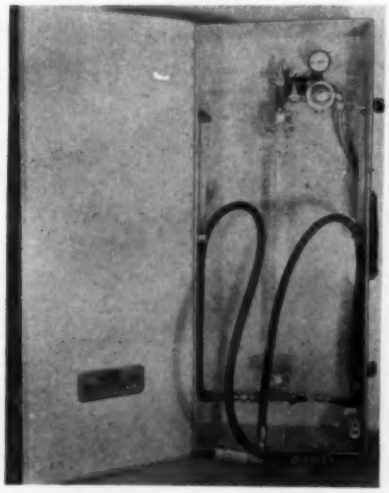
Illustrated Literature

Complete data and illustrated literature on all the above laboratory equipment may be obtained by writing to J G Machine Works, 452 - 58 W. 46th St., New York 19.



2. (Left) Electrically driven and controlled, "The Univer-Seal" closure spinner is capable of up to 30 cycles per minute. This unit operates on 60 lb. line pressure and will handle pharmaceutical vials, aerosol bottle valves and jar caps up to 75 m.m. A positive bottom stop prevents damage to the container.

3. (Right) Underweight containers can be detected right at the production line with this portable, completely equipped, pressure burette. This unit is non electric and the valve is actuated by a convenient hand trigger. Metering of the propellant is done visually. The Visue-Fill burette is usually operated at 80 lb. line pressure. This unit is particularly adapted to laboratory work.



AEROSOL SALES UP 592% IN FIVE YEARS*

*Source: Chemical Specialties Manufacturers Association survey—1951 through 1955 (last year for which complete figures are available).

LET CONTINENTAL'S EXCLUSIVE LINE OF SIX DOME-TOP AEROSOLS HELP YOU KEEP PACE WITH THIS GROWING MARKET

Looking for the right package to help you ride the trend to bigger aerosol sales? Then take your pick from Continental's exclusive family of six dome-top aerosols—sized from a dainty 3 oz. right up to a whopping 16 oz.

Whatever your product—insecticide, hair spray, air freshener or other—it's sure to stand out in a dome-top lithographed by Continental's master craftsmen. And, because they let you fill all your container needs with one order, Continental dome-tops can trim your shipping and handling costs. Engineering and research services are available, plus contacts with valve suppliers and commercial fillers, if you wish.

Let Continental's line of six dome-top aerosols start selling for you. Along with a full range of sizes, Continental's expanded production facilities now offer rapid delivery from manufacturing points across the U. S. Call soon.

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

is therefore geared to its export markets and necessary spare parts, along with complete drawings and detailed operating and installation instructions are furnished with each piece of equipment—and in several languages, too. With its emphasis on production and volume—where it does an excellent job—most U.S. equipment therefore does not seem as well suited for the starting operation of a small loader in a market undeveloped country. In this field the European aerosol equipment builders seem to have the edge. (This opinion is not strictly objective, since Druk-Pak is itself involved in the supplying of this type of equipment.) So our third major impression is of the design and construction of loading equipment and our third contrast, the advanced European engineering.

When it comes to middleman distribution—a horse we have admitedly been riding fairly hard—we find we must eat some "crow." We must take back quite a bit of what we have said about the relative markup between the U.S. and European distributors. But like the crow we now eat (and more detail on this later) the U.S. and European distributors are birds with distinctly different feathers. The U.S. middleman has a "live-and-let-live" philosophy, while his overseas counterpart tends to monopolize sales activity. You either sell through him to his retail outlets or to the chains and department stores — presently minor, but growing, outlets. The overseas manufacturer does not sell to both. Business is on an "either-or" basis. There will be more to come later on this important point and we hope we can digest the crow. (Incidentally, some types of the bird are a delicacy in certain countries). Thus our fourth impression is a negative one and for our fourth contrast we take some bicarb.

SPEAKING of "the birds" leads us to the old controversy between cold and pressure filling, a new outbreak of which has now broken out in Europe. *Parfum und Kosmetik*, a German publication, with an article in its January number, took a rather strong stand on some highly debateable fact against the pressure birds, which has left the cold birds chuckling. Naturally, the valve and propellant birds are standing on the sidelines, but the atmosphere does call for some kind of an aerosol sanitizer. If we do make a contribution we will try to make it mature. After all, our industry has come of age. Here we have no impressions or contrasts, being members of the boat crew.

As suspected, the U.S. pharmaceutical field appears to present the greatest immediate potential, with the metering valve as the important opening wedge. Riker Laboratories, Inc., already has the lead—we understand their line will shortly include 5 different products—with other companies hot on the trail. Aerosol Techniques Inc., in Bridgeport, Conn., seemed to us the most *au courrant* with the subject. In this field the German pharmaceutical industry is very active and interested. The leading German group —composed exclusively of medical doctors and researchers—known as Deutsches Kuratorium für Aerosol Forschung (German Society for Aerosol Research) is holding a convention April 18 at Bad Lippsinge, Westphalen, to cover the entire aerosol field. In Germany the term "aerosol" has a considerably broader meaning than n the U.S., and takes in all atmospheric conditions, including smoke control, air conditioning, cloud spraying, inhalants, etc. This group's research and developments in medicinal therapy and the oral or inhalant administration of drugs and remedies are years ahead of the U.S. With the recent U.S. mechanical developments the German group has now extended its field to include the small pressure package and will cover all aspects of this new field at their meeting, with papers and discussions on it. We hope to attend and report.

In the container field we were interested to see the developments under way in the U.S. on the impact extruded aluminum can, several samples of which we were able to examine. The extruders, we understand, are producing their own slugs from their own casting processes, but the whole thing is still rather hush-hush. Some of the cans have aluminum bottoms and some tin plate, but the ideal one piece, no-seam aerosol aluminum can seems to be still for the future in U.S. production. Also, apparently, the U.S. aerosol aluminum can makers have not yet hit on the fact that in their own U.S. market (Weirton Steel Co) they can get an aluminum coated black plate for the bottoms of their two piece cans. This aluminum coated steel product, much used for this purpose in Europe, overcomes any electrolytic reaction between the two metals, tin plate bottoms are used, and they permit bottom magnetic attraction through the test bath (eliminating any special test bath equipment for the aluminum can).

Of course, the principal problem with the aluminum can is corrosion, but the inhibitor on which we have previously reported now seems to have solved it. To date all tests are positive. The control cans have long since blown and the test cans are still intact. Test packages opened revealed no visible evidence of corrosion and a weight loss cannot be detected. The inhibitor can be furnished non-toxic. It is a matter of cost.

It will take us some time to analyze this hurried too brief, but most pleasant, U.S. visit, and we may be bringing up further impressions and drawing contrasts for some months to come. The impact of the U.S. after these too many years is like the force of an extrusion press on the poor little aluminum slug. We hope we can digest it properly along with the crow we still have left to eat.★

•

Canco Names Int'l Mgr.

American Can Co., New York, recently announced the appointment of William K. Schmalzriedt as manager of the firm's international division. Formerly manager of the tinplate division of CanCo's general purchasing department, Mr. Schmalzriedt succeeds Wagner Van Vlack, Jr., who was appointed assistant to the president.

THERE'S NO SUBSTITUTE FOR

Aerosol

There are a few technical rough spots in adopting the new pressurized package. Here the technical know-how and experience of the aerosol research laboratory of van Ameringen-Haebler can guide you safely.

Customers of VAH enjoy the following advisory services:

- **FORMULATION TO ACHIEVE COMPATIBILITY**
- **EVALUATION OF NEW PRODUCTS**
- **TEST PACKAGING**
- **VALVE RECOMMENDATIONS**
- **FILLING PROCEDURES**
- **PRODUCTION TROUBLE SHOOTING**

Although primarily concerned with matters of fragrance, VAH established this complete aerosol research laboratory to assist its customers in every phase of this new field of packaging from product formulation to pilot runs for market testing.

van Ameringen-Haebler, Inc. 521 WEST 5

NEWS of Pressure Packaging

Aerosol Growth Estimated

Industry sales of pressure cans will go well over 400 million units in 1957, estimated C. S. Stephens, of the General Sales Department of American Can Co., New York, last month. He estimated that sales will be at least 20% greater than in 1956, when 350 million or more containers were made for food and non-food products.

He said that last year's production of non-food pressure cans ranged around 280 million units, while output of food containers was approximately 70 million. "Figures over the past few years reveal that the pressure can industry has been growing at a rate of between 20 and 30% annually," he declared, "and indications are that this growth will continue at an accelerated pace through 1957."

Mr. Stephens said that recent industry gains have been greatest in containers for household, personal, and food products, adding that the potential for pressure packing food products warrants special optimism

•

TGA Announces '58 Meeting

The board of directors of the Toilet Goods Association, meeting recently in New York, announced that the association's 1958 annual convention will be held May 14-18, 1958 at the Americana Hotel, Bal Harbour, Florida.

The board also announced that the meeting of the association's Scientific Section will be held in New York in the Spring of 1958, at a date to be published later.

•

W. L. Sims Leaves Colgate

The Colgate-Palmolive Co., Jersey City, N. J., late last month announced that its board of directors has accepted the resignation of William L. Sims II as president and a director. He will be succeeded by E. H. Little, who was president from 1938 to 1953, when he became board chairman.

•

Bon Ami Revamps Marketing

The Bon Ami Co., New York, last month moved to consolidate all selling and promotional activities, with the designation of

Hackwith

McDonald

Robert G. Hackwith as vice-president in charge of marketing. Mr. Hackwith was formerly head of market planning and advertising.

John A. McDonald, who will continue as head of the company's sales division, was also elected a vice-president.

Rise Seen in Aerosol Ads

Aerosol products are today featured in almost twice as many advertisements (including TV commercials) as in 1955, according to a survey by Aerosol Techniques, Inc., contract pressure packagers of Bridgeport, Conn.

The heaviest increase in newspaper space devoted to push-button aids has been registered in the department store and supermarket fields, reflecting an accelerated acceptance of such aerosol products as hair-sets, shaving lather and window cleaners. These have also accounted for a substantial increase in television exposure, the ATI researchers found.

Another area in which aerosols are appearing with greater frequency is in mail order advertising, where there

DuPont's "Kinetic" Div. Assumes "Freon" Name

DuPONT'S "Kinetic" Chemicals Division will become the "Freon" Products Division April 11, it was announced early last month. This division of DuPont's Organic Chemicals Department located in Wilmington, Del., is concerned with manufacture and sale of fluorinated hydrocarbon aerosol propellants, refrigerants, solvents, and fire extinguishing agents.

The "Freon" products have been made and sold by the "Kinetic" division since mid-1950, when DuPont acquired all the assets of "Kinetic" Chemicals, Inc., a 20-year old firm. DuPont officials pointed out that, while the name "Kinetic" was well known to older members of the refrigeration industry, it holds little meaning for newer people in that business, or for those in the relatively young aerosol industry. The trademark "Freon," on the other hand, has been applied to all the company's hydrocarbon compounds since their introduction more than a quarter century ago.

The first "Freon" compounds were developed on a practical scale by scientists seeking a safe refrigerant to replace toxic, flamable, or explosive agents then in use in industrial and commercial icemaking equipment. Being non-flammable, nonexplosive, and virtually nontoxic and odorless, fluorinated hydrocarbon refrigerants are currently being used in practically all modern home refrigerators, freezers, and air conditioners.

From an initial laboratory-scale plant at Deepwater Point, N. J., DuPont's facilities for producing fluorinated hydrocarbons have grown to an 18-acre plant that turns out tons of the material each day. Other plants of the division are located at East Chicago, Ind., Louisville, Ky., and Antioch, Calif. A fifth plant, operated by the DuPont Co. of Canada, Ltd., is located at Maitland, Ont.

has been a gain of as much as 150% in pressurized specialties.

Because of its instant action and finger-tip convenience features, the aerosol packaging principle has been termed an "advertising natural." ATI's checkup showed that in most cases the consumer has become so converted to the principle of push-button sprays that the advertising pay-off is unusually high.

•

Fritzsche Extends Tech. Service

Fritzsche Brothers, Inc., New York, announced last month that George H. Ammersbach, technical director of the firm's Perfume Division, has begun contacting the trade as a special service to customers whose perfuming problems can best be handled by on-the-spot consultation. Formerly chief perfumer of the firm, Mr. Ammersbach has been traveling over the country since the inauguration of the service early this year.

•

Titan Purchases New Plant

Titan Chemical Industries, Inc., newly formed Denver aerosol firm, recently announced the purchase of a plant formerly occupied by El Paso Associates in Colorado Springs, Colo. The plant will be used to set up an aerosol line with a reported capacity of 184,000 aerosol units per day.

Everett Cole, Titan president, reported that the firm is also negotiating for a research laboratory and plant site in the Denver-Boulder area.

•

ICC Regulation Revised

Effective Feb. 17, the Interstate Commerce Commission revised paragraph (a) (1) (15 F.R. 8325, Dec. 2, 1950) (49 CFR 73.302, 1950 Rev.) to read as follows:

"Exemptions for compressed gases . . . in containers not exceeding two inches outside diameter and of not more than four fluid ounces capacity."

The CSMA, commenting on the change, points out that the revision will clarify the regulation which previously read "cylinders or tubes," where it now will read "containers."

Conn. Chem. Names Rader

Connecticut Chemical Research Corp., Bridgeport, Conn., aerosol contract packager, last month announced the appointment of Charles O. Rader as sales manager of the firm's contract packaging division. Mr. Rader has been associated with aerosols since 1948, having been sales manager for Bridgeport Brass Co.'s Aerosol Division and of Bostwick Laboratories, Inc.

For a number of years he was supervisor of the Drug Division of Lever Brothers, and later became sales promotion manager of the Tar Products and Chemical Division of Koppers Co. In this last post he was supervisor of that firm's contract packaging section.

A. O. Samuels, Conn. Chem. president, declared that Mr. Rader's appointment is one of a number of moves to provide added merchandising and technical sales services for the company's aerosol customers.

•

Connelly Elected Crown Head

Crown Cork & Seal Co., Baltimore, recently elected John F. Connelly chairman of the board of directors to succeed John J. Nagle. Mr. Connelly is also a member of the board of directors and chairman of the executive committee. Mr. Nagle was elected chairman of the newly-constituted finance committee and will continue as a director of the company.

•

Velsicol Begins Ad Program

Velsicol Chemical Corp., Chicago, recently initiated a special cooperative advertising program to publicize chlordane formulations for pest control operators. The campaign which will highlight the insecticide's stability, safety, and ease of handling, will also have the participation of Prentiss Drug & Chemical Co., California-Spray-Chemical Corp., and a number of other chlordane formulators.

•

Pegasus Opens New Branch

The opening of a new branch office for the Scandinavian Countries in Copenhagen, Denmark, has been announced by Pegasus International Corp., New York. Pegasus was organized in 1951 as a firm of international management consultants and specializes in manufacturers' licensing overseas, sub-contracts, and the exploitation of American products and processes abroad.

The new office will be located at Kongens Nytorv 18, Copenhagen K., Denmark. Bent Halling, of Copenhagen, has been appointed branch manager for the Scandinavian countries. He had previously been assistant manager for Lars Arnbach and Co., Ltd., of Copenhagen, distributors of industrial equipment for a number of American firms.

Pegasus currently has six overseas offices, located in Tokyo, Frankfort/Main, London, Paris, Melbourne, and Copenhagen.

•

CSMA Publicity Report

Frederick G. Lodes, chairman of the aerosol publicity committee of the Chemical Specialties Mfrs. Assn. last month issued a report to contributors on the committee's collection of funds. The letter reports a total of more than $27,000 collected, and names the G. M. Basford Co. as agency to handle the publicity program for the association.

Text of the letter is as follows:

Your company sent a subscription to the Aerosol Publicity Program. On March 6, 1957 the Aerosol Publicity Committee met to formulate the plans for the activation of the Aerosol Marketing and Publicity Program. 49 members have subscribed to this program, resulting in a total amount received of $27,575.00.

Many proposals were received from publicity agencies and considered by your Aerosol Committee. The Aerosol Committee has selected a publicity agency who presented the most sound and workable program for our particular requirements, at a total cost per year of $25,000.

Accompanying this letter is the presentation of the G. M. Basford Company for "A Consumer Publicity Program for Aerosol Division, Chemical Specialties Manufacturers Association."

In accordance with the letter of November 21, 1956, your Aerosol Committee will activate the Aerosol Marketing and Publicity Program on April 1, 1957 unless word to the contrary is received from you by that date.

Respectfully submitted
Frederick G. Lodes
Chairman
Aerosol Marketing and
Publicity Committee

COST VERSUS PERFORMANCE

Successful Aerosols Require Proper Balance Between These Two All-Important Factors

In today's inflationary market, the *basic cost* of an aerosol can make it a "dead duck" before it ever leaves the laboratory. Or the cost may be just right – because its *performance* isn't up to par.

Why sacrifice cost to performance (or vice versa) when you can have *both*?

Pyrenone* will yield faster knockdown . . . plus higher kill . . . with greater safety than any *single* pesticide compound presently available to you.

Of course, you can "beef up" the killing power of ordinary aerosol formulations by adding one insecticidal agent after another – to the point where they become as *potentially lethal* to human beings as they are deadly to insects. That's one way to get performance, but not the kind that builds repeat sales. And how about the cost?

For consistent performance at a cost *your* markets can afford, better stick with Pyrenone – and play safe!

Other Fairfield pesticides include *piperonyl butoxide* (the *exclusive* ingredient in Pyrenone) . . . *piperonyl cyclonene* . . . *allethrin* . . . *rotenone* . . . CIPC . . . IPC and repellents. All as effective as they come – and as *safe* as can be. For complete technical data, contact the nearest office of Fairfield Chemical Division, Food Machinery and Chemical Corporation.

*Reg. U. S. Pat. Off., FMC.

Pyrenone

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Branches in Principal Cities

In Canada: Natural Products Corporation, Toronto and Montreal

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Flavor Symposium Stresses Odor Rivalry

"MANUFACTURERS are finding out that the consumer does not readily accept such non-edible household products as insecticides, polishes, and detergents if a competitive product has a pleasing odor," declared Dr. George Fiero at a flavor symposium sponsored by Arthur D. Little, Inc., and held in Boston at the Parker House in February.

Dr. Fiero, coordinating moderator for Esso Standard Oil Co., told a group of more than 175 flavor technologists representing pharmaceutical, packaging, and food industries that his company has panels of odor experts that evaluate products at each of the firm's research divisions and refineries and at a number of European laboratories and refineries as part of an odor control program.

He pointed out that considerable attention is now given to the odor of solvents. "For many years oil refiners have manufactured a special deodorized kerosene for insecticide purposes, but paid less attention to the odor of other solvents. In the past few years, so-called odorless mineral spirits have appeared on the market."

The most powerful method of adequate evaluation of aromas is the use of chromatography, declared David A. Kendall, of Arthur D. Little, Inc. in a talk entitled "Concentration of Odors."

"Chromatography with its various modifications has been particularly successful in making gross separations of odor concentrates. Using a neutral alumina column with solvents of increasing polarity from hexane to alcohol, a rainbow of odors is perceived by odor panel analysis after the solvent has been removed at reduced pressure. An experienced panel examines the fractions and relates the odors found to specific chemical compounds and to components of the original odor. It is interesting to note that odor, as color, chromatographic separation yields bands with a maximum intensity clearly indicated.

"For precise analytical separations additional chromatographic studies are made with resins, paper and vapor phase chromatography. This work must be guided by the odor analyst to insure that the compounds investigated are those important to the odor character. In addition standard separation techniques, such as solubility acidic-basic extraction, distillation and the formation of derivatives, are applied to isolate portions of particularly interesting odor."

•

Beckman Plans Expansion

Beckman Instruments, Inc., Fullerton, Calif., manufacturers of the gas chromatograph used in cosmetic aerosol analysis, last month broke ground on a new $1.5 million research and development building at Fullerton. The 100,000 square-foot building, scheduled for completion in October, will boost the number of the firm's employees by 500 to 700.

•

Colgate Elects R. A. Hart

The election of Ralph A. Hart to the new post of executive vice-president was announced recently by the Colgate-Palmolive Co., Jersey City, N. J., manufacturer of soaps and toilet preparations. To succeed him as president of Colgate-Palmolive International Inc., and as vice-president of the parent company George H. Lesch was named.

Mr. Hart joined Colgate-Palmolive in 1932, and in 1955 was elected president of the foreign operations subsidiary and vice-president of the parent company. Mr. Lesch also joined the company in 1932. In 1955 he was appointed vice-president in charge of sales and advertising for Europe in the international subsidiary.

•

New Plastic Container

A new spherical plastic aerosol bottle, made of Zeigler-type polyethylene and intended to compete with low-pressure glass aerosols in the field of cosmetics packaging, was introduced at the British Packaging Exhibition in London in January. Blow-moulded by Cascelloid Ltd., Leicester, England, and evolved as a result of joint research with Pressure Aerosols Filling Co., Ltd., Ravens Lane, Berkhamstead, the container is reported to have survived all drop and pressure tests.

The container was exhibited as an air-freshener with a Risdon GB valve. Cascelloid points out that the product is not yet completely out of the laboratory, with long-range permeation tests still to be completed.

•

Aerosol Co. Opens N. Y. Office

Aerosol Research Co., Forest Park, Ill., has opened a new office in New York under the direction of Jack R. Schlossman, Eastern sales manager. Phone number of the new office, which is located at 550 Fifth Avenue, is CIrcle 6-6667.

— Convention Calendar—

National Packaging Exposition, *International Amphitheatre, Chicago*..April 8-11, 1957

American Management Association Conference on Systems Planning and Control, Hotel Roosevelt, New York.....April 25-26, 1957

Toilet Goods Association, *Waldorf Astoria Hotel, New York, N. Y.*.....May 7-9, 1957

International Packaging Fair, *Amsterdam, Netherlands*.....May 14-21, 1957

Chemical Specialties Manufacturers Association, *Drake Hotel, Chicago, Ill.*.....May 20-22, 1957

International Symposium on Gas Chromatography, Kellogg Center for Continuing Education, East Lansing, Michigan.....Aug. 28-30, 1957

Chemical Specialties Manufacturers Association, General Luncheon, *Commodore Hotel, New York, N. Y.*.....Sept. 16, 1957

Chemical Specialties Manufacturers Association, *Hollywood Beach Hotel, Hollywood, Fla.*.....Dec. 9-12, 1957

Shaving Cream Use Up

Grocery and supermarket distribution in 1956 was primarily responsible for a 32% increase in aerosol shaving cream sales, it was reported early last month by George Wasey, president, The Barbasol Co., Indianapolis, Ind., as a result of a company survey completed March 1.

Conducted in eight of the country's major markets, the Barbasol survey revealed that of the 77% of the men who wet shave, 37% now use the pressurized aerosol shaving method. "The 32% increase in industry aerosol sales," Mr. Wasey stated, "indicates that the woman shopper is playing an increasingly important role through her daily purchasing in supermarkets and grocery outlets."

The survey also revealed that, despite the large volume of electric shaver purchases, shaving cream sales still continue to expand. It was pointed out that, although aerosols have only 37% of the shaving cream market, they account for 56¢ of every dollar spent on wet shaving.

Turning to the picture in his own company, Mr. Wasey said, "during 1956 we doubled our 'Presto Lather' aerosol sales, giving the company more than its share of the increased industry volume. In addition, during the first two months in 1957, we doubled our Presto Lather volume over the equivalent 1956 period."

As a result of achieving wider distribution in groceries and supermarkets, Barbasol sales increased 54% over 1955 in those outlets, with "Presto Lather" accounting for the major portion of the sales.

•

Flavor Symposium Planned

A luncheon and flavor symposium on Wednesday, May 22, at the Roosevelt Hotel has been announced by the Society of Flavor Chemists. It will follow the closing of the Flavoring Extract Manufacturers Annual Convention.

The program will include the following speakers: Dr. J. H. McGlumphy of Van-Ameringen Haebler, Inc., "Application of the Maillard Reaction in Development of Flavors"; J. Broderick, Lever Brothers Co., "Origin of Flavor"; and Ernest Polak, Polak's Frutal Works, Inc., "Biosynthesis of Essential Oils." The society has extended invitations to representatives of the flavor and allied industries.

•

Pizzolato to L&F Post

Victor A. Pizzolato was recently appointed product manager for toiletries at Lehn & Fink Products, Corp., New York.

Revlon to Move N. Y. Office

Revlon, Inc., last month signed a long-term lease for the 24th through 27th floors of the new Tishman Building, 666 Fifth Avenue, New York. The four tower floors to be occupied by Revlon will have a total floor area of some 70,000 square feet.

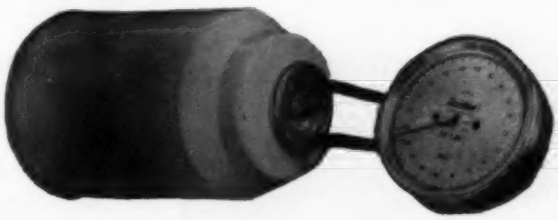
The firm will consolidate its domestic offices, now at 745 Fifth Avenue, and its international division headquarters, now at 527 Madison Ave. Completion of the building is scheduled for November.

SEE ALPHA...

FOR the finest in aerosol laboratory equipment and complete aerosol pressure filling lines.

Model 301 — Air operated laboratory crimper $300.00

Model 521 — Crimp Diameter Gauge $64.50



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Sagarin Praises Synthesis

The total synthesis of perfume materials that have been hitherto obtained only by isolation from essential oils constitutes a development that may revolutionize the fragrance industry, according to Edward Sagarin, of Standard Aromatics, Inc., New York. Mr. Sagarin spoke on "The Chemistry of Smell" before the Brooklyn College Chemistry Society on March 6.

Tracing the historical development of the perfume industry through the advent of synthetics and the equilibrium established between them and natural oils, he outlined some of the effects that synthesis of citral, geraniol, linalool, citronellol, and other oxygenated terpenes may have on perfumery. As an example he cited synthetic linalool, which he points out "Can mean price stability, constancy of materials from one batch to the other, and other advantages. It may also make necessary a reformulation of many fragrances, because of the differences in odor between a synthetic and a natural product."

•

Perfumers Society Elects

Pierre Bouillette, Givaudan-Delawanna, Inc., was elected president of the American Society of Perfumers, Inc., at the society's recent meeting at the Advertising Club in New York. Christian P. Wight, van Ameringen-Haebler, Inc., former president, became chairman of the board of directors.

August J. Schwindeman, Dodge & Olcott, Inc., was elected vice-president; Dr. Oliver L. Marton, Shulton, Inc., secretary, and Edwin D. Morgan, Jr., Lever Bros Co., treasurer. The new directors are Herbert Sommer, Prince Matchabelli, Inc., and Dr. J. Hilary Hershelroth, Cresp-Marineng Corp.

•

Guenther Begins New Survey

Dr. Ernest Guenther, vice-president and technical director of Fritzsche Brothers, Inc., New York, left recently to begin a survey of essential oil production in the rapidly developing West Indian and Caribbean areas. He took with him complete motion picture equipment to bring back a pictorial record of his trip.

Following his return (scheduled sometime in March) Dr. Guenther will present a series of illustrated lectures in Canada, including talks before the Canadian Food Technologists, on April 9; the National Research Council, April 10th; and the Cereal Chemists of Canada, on April 15.

•

Name New Crown Director

Robert W. Drummond was recently elected to the board of directors of Crown Cork & Seal Co., Inc., Philadelphia, to fill the vacancy caused by the resignation of Leonard F. Olt as a member of the board. An investment banker and member of the firm of Francis I. du Pont & Co., Philadelphia, Mr. Drummond is director of a number of Pennsylvania companies and is president of Robert Watchorn Charities and of the Wissahickon Bridge Corp.

At the same time Crown announced the appointment of an executive committee by the board of directors. John F. Connelly, member of the board, was elected chairman of the committee with Russell Gowans, president, and Walter L. McManus, vice-president and secretary as other members of the committee.

•

Drug Trade Publisher Dies

William Aglar Cook, publisher of *Drug Trade News, Drug Topics,* and a number of other publications, died early last month at his home in Lake Wales, Florida. Mr. Cook established Topics Publishing Co. in 1920 with the late Jerry McQuade, and served as president until 1950, when he became chairman of the board. The company also publishes *Food Field Reporter, Food Topics,* and the *Drug Topics Red Book.*

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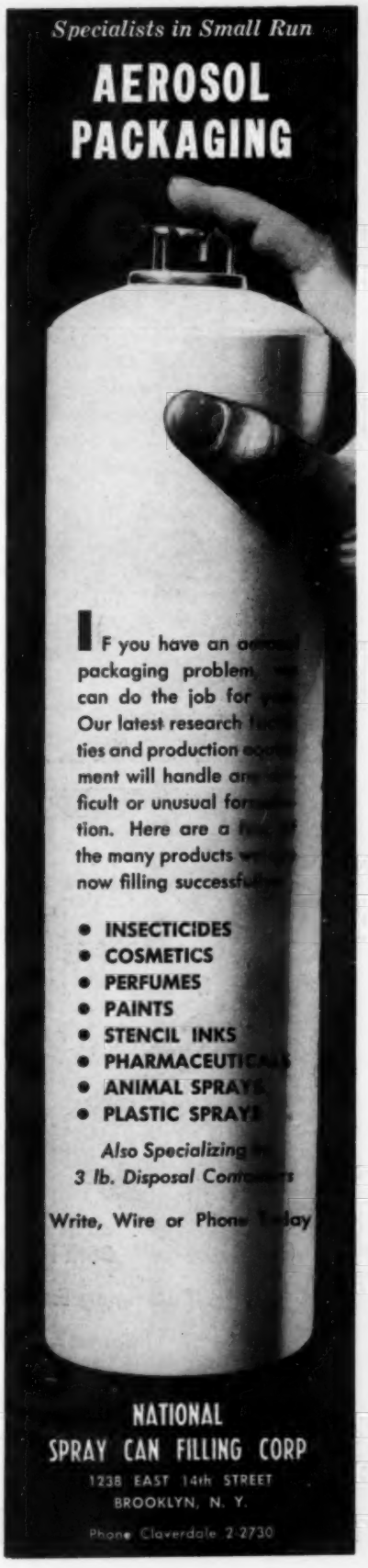
Scovill Officer Retires

Arthur P. Hickcox, vice-president and a director of the Scovill Manufacturing Co., Waterbury, Conn., recently retired.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AEROSOL PACKAGING
IF you have an aerosol packaging problem, we can do the job for you. Our latest research facilities and production equipment will handle any difficult or unusual formulation. Here are a few of the many products we are now filling successfully
• INSECTICIDES
• COSMETICS
• PERFUMES
• PAINTS
• STENCIL INKS
• PHARMACEUTICALS
• ANIMAL SPRAYS
• PLASTIC SPRAYS
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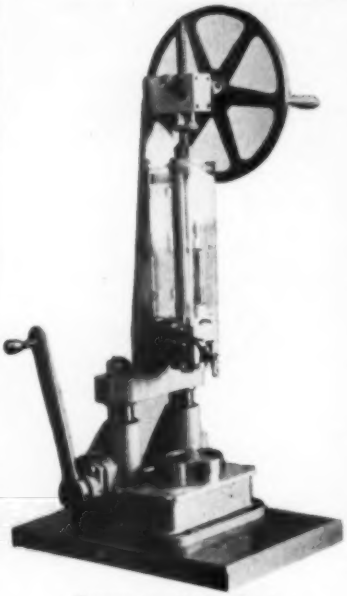

Foresman Liquefied Gas Manipulator

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Liquefied Gas Manipulator w/Universal Head
Propellant Manifold for Manipulator
Hand Operated Vial Capper
Change Parts for Vial Capper
One inch opening Can Closing Press
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Density Units
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Can Sampling Units — Piercing or Valve Actuating
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Flammability Set
Test Ovens — Standard or Custom Built
Instantaneous Chiller Units — Mechanically Refrigerated
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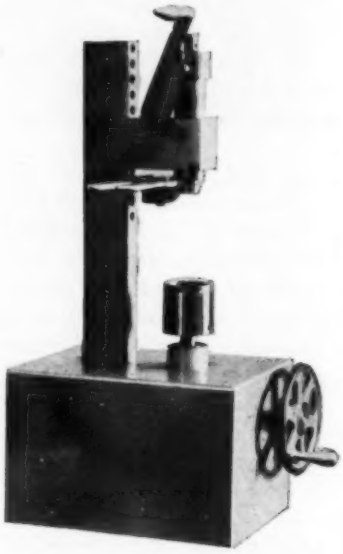

Foresman Hand Operated Vial Capper

See The NEW RISDON 26mm. AEROSOL VALVE BEING APPLIED TO NYLON BOTTLES BY NEW MOJONNIER CRIMPER

BOOTH 876

26th National Packaging Exposition International Amphitheatre, Chicago, April 8-11 1957

RISDON
THE RISDON MANUFACTURING CO.
VALVE DIVISION Naugatuck Conn

RI-89

To illustrate the simplicity of filling aerosols, Mojonnier will fill 15 thousand of the new nylon bottles with aerosol cologne on a "700" series electromatic filling line

DON'T MISS mojonnier ASSOCIATES DISPLAY

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26th National Packaging Exposition International Amphitheatre Chicago April 8-11

BE SURE TO SEE
• OPERATING AEROSOL LINE
• AUTOMATIC WEIGHT CHECK CONTROL
• HIGH SPEED ROTARY FILLER

mojonnier associates inc.
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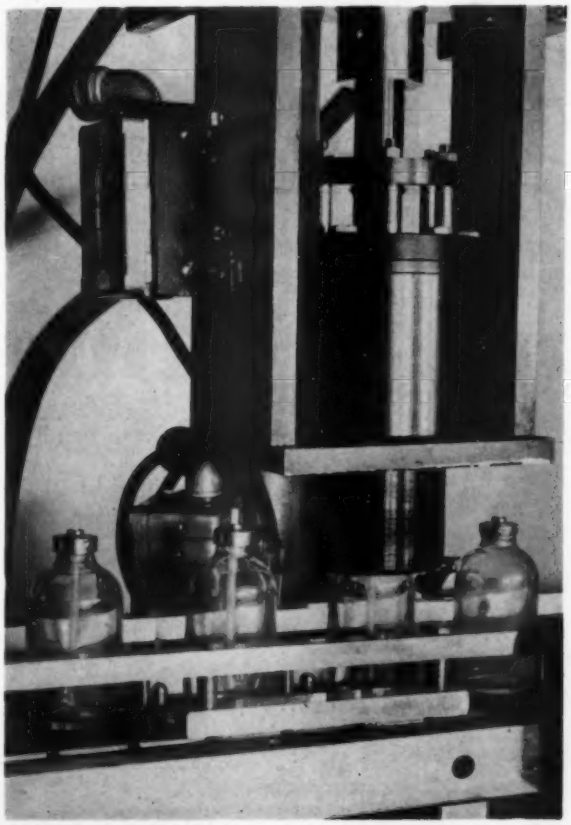
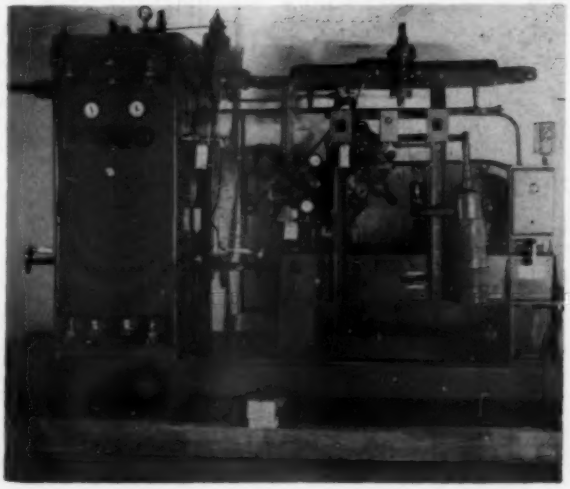
Products—
Processes—
Bulletins—

Mojonnier Introduces Crimper, Refrigeration Unit





A high speed glass bottle crimper that is interchangeable with a can crimper head (upper photo) is one of the new equipment units to be unveiled by Mojonnier Associates, Inc., Franklin Park, Ill. at the Chicago Packaging Show in April.

The crimper will enable the packager to automatically crimp glass aerosols at speeds up to 60 per minute, which the company says has never before been possible in the industry. Though presently in use in several installations, the unit will have its first public showing at Mojonnier's complete filling line exhibit at the Packaging Show.

Mojonnier will also introduce its "package" refrigeration units, which are pretested before delivery and can be set up and operating in as little as two days after delivery. The systems employ a new concept of flooded system refrigeration, utilizing a fluorinated hydrocarbon refrigerant.

The units are available in capacities ranging from one to 20 tons and are designed to cool both product and propellant in a single unit. They also can be furnished to handle product or propellant separately.

Ozene Offered for Aerosols

"Ozene," a new water-dispersible chlorobenzene solvent cleaner and odor suppressant, has been made available to the aerosol industry by the Solvay Process Division of Allied Chemical & Dye Corp., New York. As a solvent-cleaner it is said to be particularly effective for removal of soft carbon deposits from motor parts, tars and oils from trucks and cars, and oils and greases from concrete floors, and grease and offensive odors from garbage cans and refuse containers. As an odor controllant it is reported to effectively mask existing offensive odors, act to control the growth of micro-organisms that produce sulfides, and prevent the growth of fungi that speed decomposition of waste materials.

Ozene is available as a concentrate and may be diluted with water or kerosene. It has a high flash point, making it safe to use, and can be removed with a water flush or a steam jenny.

•

MM&R Issues New Catalogue

Magnus, Mabee & Reynard, Inc., New York essential oil and aromatic chemical producers, recently brought out the February-May 1957 issue of their catalogue, listing more than 1000 essential oils, balsams, oleoresins, concentrated flavors, basic perfume oils, aromatic chemicals, and certified colors. The new edition of the firm's catalogue contains a products-by-industries classification which it is said will be of special interest to manufacturers of cosmetics, pharmaceuticals, and food products.

•

New Swiss-German Booklet

Aerosol-Service AG, Basel, Switzerland, and Aerosol-Service GmbH, Hamburg, Germany, recently issued an illustrated six-page booklet describing the workings of the aerosol and some of the possible uses for it. In addition to a brief history of pressurized packaging in America, the German-language booklet lists some of the advantages over conventional packaging methods.

African Pyrethrum

It's a fact Insects are not resistant to Pyrethrum

PYRETHRUM (P.Y.R.), harmless to human and animal life, is

Unsurpassed in Quick Knock-Down

Economy in Concentration With Synergists

Rapid Dispersal High Penetration

PYRETHRUM (P.Y.R.) offers highest protection for

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Ship's Holds

Granaries and Flour Mills

Always insist upon Pyrethrum (P.Y.R.) Base Insecticides

"Have you seen Pyrethrum Facts for 1957?"

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Please send me___copies of free booklet, Pyrethrum Facts.

NAME_____

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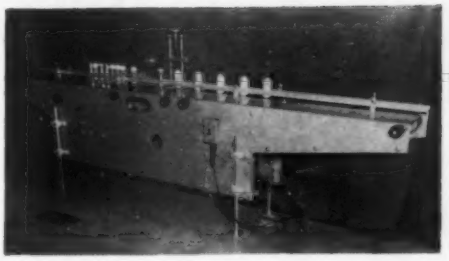
P·Y·R

AFRICAN PYRETHRUM

Kiwi Announces New Automatic Coder



Kiwi Coders Corp., Chicago, recently announced a new power-driven machine for automatically code dating the concave bottoms of pressurized cans, or flat bottoms of other round aerosol containers. The coder may be also used for pricing the can top (at the same time the code is being imprinted) and for applying the name of an item where it is needed for product identification.

Kiwi says that with this type of equipment it is possible to carry one inventory of containers for a large number of items. The coder can also be used as a work table for affixing parts to cans, or for packing them in shipping cartons.

New Spray Valve Introduced

A newly developed aerosol spray valve for both cold and pressure filling was announced last month by Aerosol Research Co., Forest Park, Ill. Named the "AR-74," it features a removable spray tip of all nylon construction. Since both the primary and secondary metering is located in the spray tip, there is no internal metering.

The announcement says that various meterings are available for true and residual aerosols, as well as for foam products. Also, a special "Mist-Miser" tip is available for ultra low-pressure and water-base spray formulations. The valve is of nylon construction, with stainless steel spring, and is available for glass bottles as well as for the standard one-inch mounting cup.

Aerosol Research points out that because the AR-74 spray tips are removable and interchangeable, "The manufacturer of several different aerosol products, using the pressure method of filling, can reduce his inventory by stocking the one basic lower valve assembly for all his products and selecting the proper tip for each formulation."

New Double-Purpose Valve Offered By Aerosol Research Co.

Bush Issues Aerosol Booklet

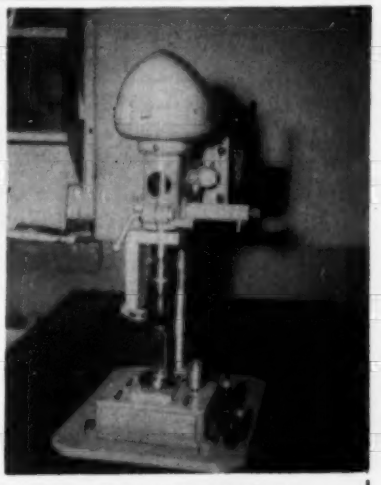
W. J. Bush & Co., Ltd., London, England, recently issued a new 16-page illustrated booklet entitled "The Genie in the Bottle." It describes the history of the aerosol industry, some of the general principles and workings of the aerosol container, valve, and propellant, and includes a complete listing of all companies in Great Britain active in all phases of the pressurized packaging field.

•

New Transfer Apparatus

A new liquid transfer apparatus, for transferring liquids under pressure to other containers in visibly measured amounts, was introduced recently by Builder's Sheet Metal Works, Inc., New York. The apparatus, which has been tested to approximately 200 pounds pressure, may be used for propellant, methyl chloride, sulphur dioxide, methyl bromide, and other liquids.

With a stainless steel tank, prices range from $93 for the 2½ pound size to $165 for the 25 pound size.



• *(Above)* **Screw on top for glass aerosol containers for making refillable glass aerosols.**

• *(Right)* **Drill press capping machine for fastening valves to glass containers.**

LAB EQUIPMENT FOR GLASS AEROSOLS

Make your own aerosol samples, using these tested Builders products. The screw on top allows you to make refillable glass aerosols—and will fit both coated and uncoated bottles. If you have a special bottle, send a sample for sure fit.

Price $23.50

for 6 sets, including 2 oz. plastic coated bottles and valves.

The drill press capping machine is used for rolling and fastening aluminum or steel valves to tops of glass bottles. Production rate is approximately 2 per minute. A foot switch is included.

Price $198.00

Other outstanding Builders items:

Constant temperature water baths, stainless ovens, tables, lab cabinets, containers, pressure testers for aerosol containers, snap-on screw top for aerosol containers.

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that have proved their effectiveness in the production of industrial and consumer products

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OIL BOUQUET E.T. No. 3126
OIL BOUQUET P.C. No. 3127
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Who's Who in the Aerosol Industry

Russell B. Stoddard, of the administrative offices of the Food Machinery and Chemical Corp., New York, has come to be called "Mr. Pyrethrum" with some justification. He has guided the pyrethrum activities of five different chemical corporations, and is often credited with having been the single most important man behind the successful development of pyrethrum for use in aerosol insecticides.

His chemical career began back in 1912, when he was graduated from Clark University with a degree in chemistry. For the next five years he taught organic chemistry at Lowell Textile Institute, and in 1917 became a research chemist on the staff at National Aniline. In 1920 he joined Ungerer & Co., in the essential oil field, later being connected with Van Ameringen-Haebler.

His interest in insecticides dates from the early thirties. In 1934 he became associated with R. J. Prentiss & Co., mainly to build the firm's rotenone business. Among his achievements at Prentiss was the opening up of a new source of rotenone root (which previously had come only from Java and Malaya) in Peru, which today is the major world source.

In 1939 Mr. Stoddard's interest in pyrethrum led him to join Dodge & Olcott, where he became associated with a special research group working to develop a highly purified pyrethrum extract for use by the Armed Forces. The group's work at Dodge & Olcott paved the way for development of aerosol insecticide "bombs," and Mr. Stoddard was instrumental in the development of a whole series of aerosols based on this purified pryethrum extract. He also worked closely with developers of piperonyl butoxide as a pyrethrum

synergist, a development that has caused the use of pyrethrum to mushroom.

When the insecticide section of D&O was purchased by U.S. Industrial Chemicals in 1945, Mr. Stoddard went to that company as coordinator of insecticide operations. Here, too, a good portion of his activities were in the pyrethrum field.

In 1951 another corporate shuffle brought a new position for Mr. Stoddard. USI was absorbed by National Distillers, and for the next three years, during a chemical expansion, he worked with that firm until, in 1954, the insecticide activities of the company were acquired by Food Machinery and Chemical Corp. When the Fairfield Chemical Division was formed that same year, Mr. Stoddard was the natural choice to be manager of the division.

Among his many association activities, he has been a director of the National Agricultural Chemicals Association and has been an active committeeman in the CSMA.

Wiley J. Pickett, supervisor of sales for Pennsalt Chemicals' new line of "Isotron" aerosol propellants (which he insists should be spelled "propellent") is a native of Burlington, Vermont. He was schooled in Concord, New Hampshire, and obtained a B.S. degree in chemistry at the University of New Hampshire.

Mr. Pickett has been associated with the Colgate-Palmolive Co. and held sales management positions with the American Alcolac Corp., U. S. Industrial Chemicals, and the Stepan Chemical Co., where he handled sales of lauryl sulfates and other detergents. During much of this period of his career, he was actively engaged in a study of the corrosion activities of detergents in metal aerosol containers, and presented a paper covering the highlights of this study at the December 1953 meeting of the CSMA.

Prior to joining Pennsalt in February 1956 to set up a national marketing team for "Isotron" propellants, he was Eastern district manager of Lever Brothers' Industrial Detergent Department, with headquarters in New York City.

In addition to his activities in the CSMA (he is currently serving on the aerosol publicity committee) Mr. Pickett is an active member of the Chemists' Club and the Society of Cosmetic Chemists.

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FOR AEROSOL HAIR AND SHAVING PREPARATIONS, SHAMPOOS, PHARMACEUTICALS

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An improved WATER and ALCOHOL SOLUBLE Lanolin Derivative

Here is a lanolin product that will give your preparations superior emollience in a large variety of applications at minimum cost, without lanolin's greasy effects.

ETHOXYLAN is available in two forms —check these advantages:

ETHOXYLAN 100

- Anhydrous solid—100% soluble in water; sufficiently soluble in alcohol as an additive to aerosol hair products.
- Compatible with standard propellants and film foaming materials.
- Will not clog or produce usual sticky film of lanolin.
- Imparts emollience, softness and lustre.
- Surface active; foam enhancer.
- Produces crystal clear solutions.
- Non-irritating.

ETHOXYLAN 50

50% active ingredient crystal clear aqueous solution.

Either way, you should check the benefits of ETHOXYLAN —*write for BULLETIN and SUGGESTED APPLICATIONS.*

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Your aerosol product can smell as

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They are especially developed for use in pressure-packaged products and can be depended on to give satisfaction.

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CSMA ANNOUNCES DECEMBER MEETING PLANS

THE Chemical Specialties Manufacturers Association, in a special bulletin published late in February, announced preliminary plans and reservation information for its 44th annual meeting Dec. 9-12 at the Hollywood Beach Hotel, Hollywood, Florida. The bulletin states that the general programs and entertainment features "are being prepared on an entirely different basic plan than for meetings in city hotels," with all features being planned for complete participation by all persons attending.

Notices concerning the meeting will reach members in May or June, along with reservation request forms. The Hotel Hollywood Beach, meeting headquarters, will accept reservations for representatives of member companies only, with non-members' reservations accepted for the hotel after Nov. 15, or before that at designated nearby locations.

The bulletin points out that there won't be the usual rooms available for displays or for company suites, and that instead there will be an "Open House Night" sponsored by companies normally holding their own "open houses."

Emphasis on the meeting program will be on problems of the chemical specialties industry under tropical and sub-tropical conditions, with a number of speakers from Florida expected to highlight the meeting's business program. Business and committee meetings will be held during all four days of the convention.

In addition to an entertainment program each evening, there will be special events for ladies attending, including a fashion show, visits to Miami, morning coffee meetings, etc.

•

To Permit Private Labeling

Mira-Glo Corp., Champaign, Ill., producers of an aerosol cleaner for glass, enamels, and bright metals introduced in the Midwest in 1956, last month announced a new private label policy. According to S. L. Bing, company president, private label merchandisers will be able to obtain "Mira-Glo" through the firm's newly-established private label division.

•

Krylon Elects McElroy

Krylon, Inc., Philadelphia, manufacturer of aerosol coatings and enamels, recently elected John J. McElroy, Jr. a director and member of the executive committee. He is vice-president and a director of F. A. Davis, Co., a medical publishing firm.

•

TGA Lists Golf Tourney

The annual toilet goods industry golf tournament will take place on Monday, May 6th, at the Winged Foot Golf Club in Mamaroneck, N. Y., it was announced by the Toilet Goods Association last month. Chairman for the golf tournament committee, which will be held in connection with the TGA convention, is Paul E. Forsman, of the C. H. Forsman Co.

•

Aerosol TV Program

"A Panoramic Review of Pressure Cans," in live television commercials, will be featured on the NBC-TV News Show April 8 at 7:45 EST. Sponsored by American Can Co., the program will bring to the attention of the consumer such aerosol products-of-the-future as ketchup and cheese spreads, as well as demonstrating old-line products such as shaving and whipped creams, hair sprays, spray talcs, etc.

Canco Begins Expansion

American Can Co., New York, last month began installation at its St. Louis plant of new facilities for processing coiled steelplate for can manufacturing. The project is part of a nationwide $27 million expansion program the company describes as "a first step in combating rising tinplate and steelplate prices."

The company announced that it plans to install extensive plant facilities at other points in the U. S. to eliminate the use of pre-cut sheets in can manufacture.

A READY SUPPLY OF

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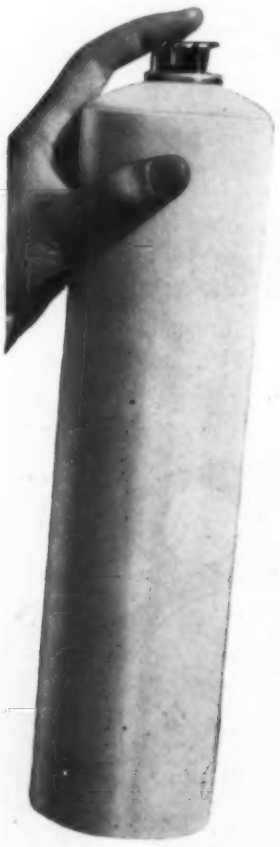
QUESTIONS & ANSWERS ABOUT MARKETING UNDER PRESSURE WITH INDUSTRIAL SIZE TUBE MANIFOLD DISPOSABLE CONTAINERS



Q: HOW DO TMC INDUSTRIAL SIZE CONTAINERS INCREASE SALES?

A: TMC King Size Disposable Containers are giving manufacturers a new selling tool as potent for increasing industrial and commercial sales as the small can size containers have been in households the world over.

Q: WHAT TYPICAL PRODUCTS ARE NOW SUCCESSFULLY USING TMC DISPOSABLE CONTAINERS?

A: Insecticides, room deodorants, greenhouse and nursery sprays, stable and barn disinfectants, germicides, medical gases, fire extinguishers, Freon, stencil ink, etc.

Q: HOW DO TMC DISPOSABLE CONTAINERS CUT YOUR COSTS?

A: Accurate packaging by weight or volume, compact size, no deposits or refunds, no bookkeeping, no return transportation costs, no maintenance costs.

Q: HOW CAN WE LEARN ABOUT INDUSTRIAL SIZE AEROSOL MARKETING?

A: The Tube Manifold Corporation has wide experience in working with foremost manufacturers on applying TMC Disposable Containers to marketing. Write for "The Latest Thinking on Marketing Under Pressure."

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CORPORATION
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Fabricators of Tubular Products Since 1920

DuPont's Earnings Remain High

E. I. du Pont de Nemours & Co., Wilmington, recently reported a net income figure of $383.4 million for last year, on net sales of $1,8[illegible]8,445,757. According to Crawford H. Greenewalt, president, the figures were exceeded only by the record totals of $431.55 million in income and $1.9 billion in sales the previous year.

•

Fritzsche Reduces Prices

Fritzsche Brothers, Inc., New York essential oils firm, has announced two price cuts as of March 11. In 35-pound cans or 385 pound drums, Oil Lemon USP California Coldpressed was reduced to $4.00 per pound, and Oil Lemon USP California Coldpressed No. 413 was reduced to $3.75 per pound.

Dip Tubes

(*From Page* 23)

hydrants. The problem was solved by adapting a molded part and assembling it with a tube. The assembly is stored in the can, but during use is reversed so that the tube becomes a long oiling spout.

We are obviously only at the beginning of this "age of convenience." It can be confidently expected that propelled and dispensed products will be used in ever increasing quantities.★★

Nestle-LeMur

(*From Page* 16)

Rising out of the test tank, and after the inspection station, is a hooded blow-off station. Here air jets drive the water from the valve cap, and leave only moisture to be dealt with. This is dried off in an eight-foot tunnel, through which hot air is blown. Then the containers have the spray buttons attached, and are spray-tested at a fume hood.

From this point the cans pass through an automatic capper and then to a coder. The coder bottom-codes the product lot number to the con-

tainer, at the same time driving it to a by-pass if it is to be lithographed or into a wrap-around labeler if the containers are unprinted. The cans are then deposited back on the conveyor and emerge for final packing and shipping.

Utilizing this, and similar equipment, Nestle-LeMur has packaged such widely divergent aerosol types as:

1. Dry powder (spray talc and foot-powder sprays).
2. Perfume sprays.
3. Alcohol solution of perfume (colognes).
4. Alcohol-soluble base (hair lacquers and wave sets, hair groomers, body deodorants and anti-perspirants).
5. Alcohol-soluble base plus inert powder (hair color sprays in various shades, including gold, silver, auburn, brown, and black).
6. Non-alcoholic solvent or carrier for perfume (space deodorants and air fresheners and sanitizers).
7. Solvent plus insecticide (insecticides and moth-proofers).
8. Solutions (alcohol) of antiseptics or analgesics (topical sprays).
9. Emulsion-type aerosols (shaving cream, shampoo foams, hand cleaner foam, antiseptic foam, and sunburn foam).

With such a variety of products, Nestle-LeMur has solved more than its share of individual product problems. With such multiplied problem-solving of a whole line of products, the company's experience has perceptibly deepened until it now feels itself well qualified in the field of aerosol packaging.★

Consultant's Corner

(*From Page* 40)

low cost, but I prefer a permanently mounted sensing unit with an automatic cycle of multiple location sampling. This allows for sniffers to be placed at all potential danger points. Excess flammable vapor at any one point will set off the alarm and activate protective equipment (for instance, remote switch-off of all current in the laboratory). The alarm can be set to go off at any concentration —.20% of the lower safe concentration is common. On my return from Europe, my own laboratory will be fittted with one of these master unit sets, made by Mine Safety Appliances Co.

A final word of caution. Though the atmosphere sampler is a fine tool, it will not overcome poor judgment or basically improper conditions. Butane or propane can reach dangerous concentrations with surprisingly small quantities of liquids involved. Do not make the mistake of figuring "Just this once I'll try it without safeguards." You very likely will be really sorry.★

Powder Aerosols

(*From Page* 24)

The potential field in the various branches of surgery is enormous. The employment of medicinal aerosols has demonstrated their immense value in the neuro-surgical field, and it now appears that operative procedures can be undertaken which previously were considered extremely hazardous due to the danger of infection in the operation area.

The simplicity of the aerosol technique makes this the ideal method of treatment for minor procedures in the hospital casualty department of the doctor's surgery. Abrasions and surface lesions can be rapidly sprayed as a prophylactic measure, and then covered with a simple dressing. Another field in which the aerosol antibiotic unit is establishing its value is in the surface skin infection, such as Impetigo or Barber's Rash.

It is only recently that the technical difficulties of presenting antibiotics in aerosol powder form have been overcome, but this technique is already showing considerable potential value. As further experience in its use is gained, it may well become established as a routine procedure in surgical practice, and a further step in the employment of antibiotics in their best use.★

AEROFLEX "P" DIP TUBES

EVERY SHIPMENT LABORATORY TESTED FOR CRACK RESISTANCE

- Ideal for aerosols, atomizers squeeze bottles and lotion pumps
- Odorless and non-toxic
- Resistant to most filler and propellant chemicals
- Dependable service
- No annealing necessary
- Also nylon Dip Tubes for special applications

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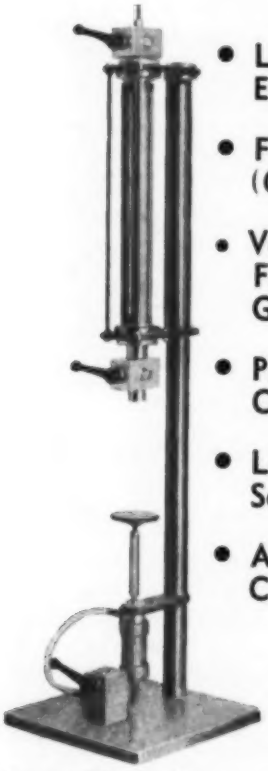
Supplying internationally for aerosols



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- Valves (Liquid and Foam/Cans and Glass Bottles)
- Product Concentrates
- Laboratory Service
- Advice and Consulation

Pressure Filler for the Lab and Small Runs DP-110

All Products manufactured to our own Designs, Formulations and Patents. Valves available from Germany and Italy—Filling Machines from Germany—Laboratory Equipment and Concentrates from Switzerland.

Publishers of "European Aerosol Survey," a quarterly periodical

Catalogues and Prices on Request.

To illustrate the simplicity of filling aerosols, Mojonnier will fill 15 thousand of the new nylon bottles with aerosol cologne on a "700" series

electromatic filling line

DON'T MISS

mojonnier ASSOCIATES DISPLAY

BOOTH **876**

26th National Packaging Exposition International Amphitheatre Chicago April 8-11

BE SURE TO SEE

- **OPERATING AEROSOL LINE**
- **AUTOMATIC WEIGHT CHECK CONTROL**
- **HIGH SPEED ROTARY FILLER**

mojonnier associates inc.
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See The **NEW RISDON 26mm. AEROSOL VALVE BEING APPLIED TO NYLON BOTTLES BY NEW MOJONNIER CRIMPER**

BOOTH **876**

26th National Packaging Exposition International Amphitheatre, Chicago, April 8-11 1957

RISDON

THE RISDON MANUFACTURING CO
VALVE DIVISION Naugatuck Conn

New Aerosol Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication.

Complete copies of these patents may be obtained by writing to the publisher of this magazine, Aerosol Publications, Box 31, Caldwell, N. J., and remitting 50c for each copy desired. For orders received outside of the United States the cost will be $1.00 per copy.

2,782,975. Sprayable Amorphous Antibiotic Composition, Pressurized Container With Same, and Method of Preparing. Patent issued February to John Cecil Bird, Pearl River, N. Y., assignor to American Cyanamid Co., New York, a corporation of Maine.

A composition of matter comprising finely divided particles having a diameter of less than about 15 microns of a substantially amorphous antibiotic of the group consisting of calcium chlortetracycline and calcium tetracycline suspended in a liquid halogenkane whose specific gravity is greater than 1.73 and whose vapor pressure at 25° C. is between 12 and 100 lbs./square inch.

2,780,389. Squib Operated Gas Release Device. Patent issued in February to Marvin A. Sandgren, Robbinsdale, Minn., assignor, by mesne assignments, to The United States of America.

A squib operated discharge device comprising a body member, a cavity in said body member, a container filled with an expansible fluid under pressure positioned in said cavity, a bore in said body member in open alignment with said container, a dart in said bore having an enlarged point adapted to pierce said container and an enlarged head having a sliding fit in said bore, an explosive squib in said bore adapted to drive said point through the wall of said container, at least one discharge passage communicating with said bore, means normally holding said dart in such a position that said dart head closes an explosive gas outlet, said bore and said dart being so proportioned that when said point has pierced the wall of said container said head uncovers said gas outlet, said bore comprising a cylindrical portion and a tapered portion, said tapered portion being at the end adjacent said container, said dart being normally positioned with its head in said cylindrical portion and having a sliding fit therein, said tapered portion being so proportioned that said squib may drive said head into said tapered portion sufficiently to uncover said explosive gas outlet and that said dart will then be stopped.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. Notice of opposition to registration of any trademark must be filed within 30 days of publication of the application in the *Gazette*, and must be accompanied by a fee of $25.

Fire-No-More, in small outline letters in two lines, for fire extinguishers of the aerosol type. Application filed April 4, 1956 by Self-Ease Units, Inc., New York. Claims first use June 22, 1955.

Magic Net, in solid black capitals, for hair dressing. Application filed Sept. 1, 1955 by The Nestle-LeMur Co., New York. Claims first use Aug. 22, 1955.

Adorn, in solid black capitals, for hair spray. Application filed Aug. 17, 1956 by The Gillette Co., d. b. a. The Toni Co., Boston. Claims first use June 11, 1956.

Vapor-Matic, in solid black capitals for hair waving lotions. Application filed April 13, 1956 by Pilot Products Co., Salt Lake City. First use claims March 14, 1956. 1956.

Professional Directory

Lancaster,
Allwine
&
Rommel

Registered Patent Attorneys

Suite 428,
815 — 15th STREET, N. W.,
Washington 5, D. C.

Patent Practice before
U.S. Patent Office

Validity and Infringement
Investigations and Opinions

Booklet and form
"Evidence of Conception"
forwarded upon request.

bio-assay
INSECTICIDE AEROSOL

- *formulation performance*
- *label claims*
- *mammalian toxicity*

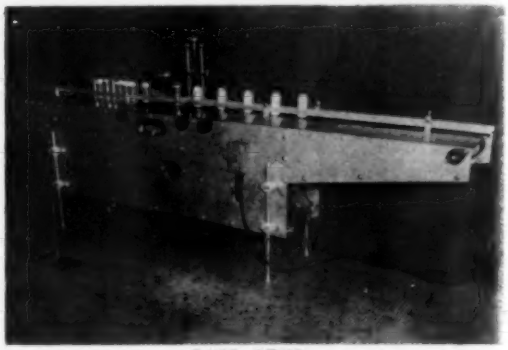
WISCONSIN ALUMNI RESEARCH FOUNDATION
INSECTICIDE TESTING LABORATORY
P. O. BOX 2217-DD
MADISON 1, WIS

Powr-Pak Shaving Cream Line

The filling line of Powr-Pak Inc., Bridgeport, is currently turning out 4000 cans of "Molle Deluxe Instant Lather" shave cream per hour, or something in the vicinity of 400,000 shaves every hour. This photo was released last month by the Glycerine Producers' Association, which pointed out that aerosol shave creams are currently consuming three million pounds of glycerine each year.

CODE DATING MACHINE FOR AEROSOL CANS

Will mark the top or bottom or both at the same time



PATS. PEND.

Kiwi® Coders Corporation announces a new power-driven machine for economically and automatically code dating the concave bottoms of pressurized cans or flat bottoms of other round containers. Can also be used as a work table for affixing parts to can

Send details on your specific marking problems.
Literature available on all types of applications

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New Sindar Bulletin

Sindar Corp., New York, has just published a supplement to its Technical Bulletin H-1 entitled "G-11 (Hexachlorophene USP) — An Annotated Bibliography." Appearing in the *Sindar Reporter* (No. 1, 1957) the bibliography includes abstracts of 28 articles and one patent on this bactericide used in soaps, deodorants, and cosmetics. The bulletin also contains an index to the supplemental abstracts, similar to the one used in the original technical bulletin.

•

G. W. Johnston in New Post

Glenn W. Johnston last month was appointed by the J. B. Williams Co., Glastonbury, Conn., as product manager for the company's shaving products. He joined Williams last month after serving 12 years with McKesson & Robbins, drug, pharmaceutical, and toiletries manufacturers.

Fruehauf Introduces Paint

A new line of touch-up aerosol paints was introduced recently by the Fruehauf Trailer Co. for distribution by its 78 factory branches. Manufactured by Sprayon Products, Inc., Cleveland, the product is designed to permit trailer maintenance shops to restore the original factory finish without conventional spraying equipment. It is being packaged in red, white, and green in 12-ounce cans.

AEROSOL PRODUCT DEVELOPMENT

Consulting — Research — Testing

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formerly Aerosol Process Co., Inc.

Winston H. Reed, Ph.D., President and Technical Director

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PROPELLANT STORAGE
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136-150 Twenty-fourth Street
Brooklyn 32, New York

CLASSIFIED ADVERTISING

Rates for classified advertisements are ten cents per word, $2.00 minimum, except those of individuals seeking employment which *Aerosol Age* will run without charge. Check must accompany all classified advertisements. Address all replies to Classified Advertisements with Box Number, care of *Aerosol Age*, Box 31, Caldwell, N. J. Closing date: tenth of month preceding month of issue.

TECHNICAL SERVICE MAN
AEROSOLS

Major propellant manufacturer seeks chemist or chemical engineer, to age 45, to provide technical service, advice, and guidance, to our customers in the fields of insecticides, pharmaceuticals, cosmetics, and household products. 3 to 5 years' formulation experience in above fields necessary; knowledge of aerosols helpful.

LIBERAL COMPANY BENEFITS

Send confidential resume, including salary desired. Our staff knows of this ad.

Write Box A.A. 1033, 125 W. 41 St., NYC

Situations Wanted:

SALES EXECUTIVE — thoroughly familiar with all phases aerosol industry available soon to make profitable contribution to well financed progressive organization. Five figure income necessary—with opportunity for investment. Replies held in strict confidence. Address Box 129, c/o Aerosol Age.

POSITION WANTED: Young man (33) with five years experience in aerosol research and development desires managerial position in Aerosol industry. B. S. degree in Biology, M. S. degree in Physics; several publications. Address Box 127, c/o Aerosol Age.

For Sale:

LIMITED SALE: 300,000 Foam Type Valves—$18.50/M. With removable dispensing white nozzle. For use on standard 1" opening cans. These are new valves available due to customer cancellation. Samples supplied upon request. Box 128, c/o Aerosol Age.

Edelstein Named to New Post

Albert Edelstein, has been named president of the newly formed Syncro-Mist Controls, Inc., 253 East 181st Street, New York. The company will soon begin production of automatic devices for periodic dispensing of aerosols in the field of agriculture, industry, and commercial application of such products as insecticides and deodorants.

To illustrate the simplicity of filling aerosols, Mojonnier will fill 15 thousand of the new nylon bottles with aerosol cologne on a "700" series

electromatic

filling line

DON'T MISS

mojonnier ASSOCIATES DISPLAY

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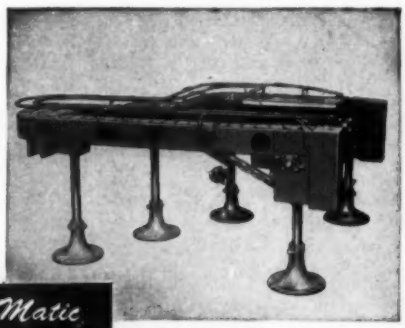
mojonnier associates inc.
9151 Fullerton Avenue • Franklin Park, Illinois

Reduce Handling Costs!



Styl-O-Matic LATERAL CURVE BOTTLE & CONTAINER CONVEYOR

KEEPS PRODUCTION FLOWING SMOOTHLY

A VERSATILE, economical unit for the food, dairy, beverage, etc. field. Conveys in straight line, around curves (0° to 180°) and up or down normal inclines or declines. Available in steel or stainless steel, with or without pack-off tables. Only one power unit is needed as there are no corner brackets.

WRITE FOR FREE BULLETIN

about this flexible, smooth operating unit that lowers costs and increases production. Ask for Bulletin No. ST-1. Dept. AA-4

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Stainless Steel Valves & Fittings
Agitators
Process Pumps
Filters

• Propellent Handling

Cylinder Handling Equipment
Overhead Monorails & Hoists
Cylinder Crane Scale & Grabs
Refrigeration Systems
Transfer Systems
Bulk Storage Systems
Intermediate Receivers & Controls
Laboratory & Production Systems

• Packaging

Coding Machinery
Conveyors
Fillers, Cold & Pressure
Crimping Machinery
Heat Test Tanks
Propellent Injectors
Propellent Fillers
Glass Spinners

Representing
Alpha Engineering & Machine Works, Inc.

AER-O-FIL ENGINEERING CORP.

Sales: 50 Kearney Rd.
Needham, Mass.
NEedham 3-5050
NEedham 3-1747

Engineering & Services
411 California St.
Bridgeport, Conn.
EDison 6-1141

Williams Introduces New Line

The J. B. Williams Co., Glastonbury, Conn., early last month introduced its new line of "Golden Yellow" shaving creams, which are described as "five times richer" in lanolin than competitive products, in a national advertising campaign. The company reports that the product was formulated as a result of surveys indicating 2-1 preference for lanolin-type shave creams.

The product employs concentrated or "cream of" lanolin, which it is claimed has "25 times the skin-soothing properties of plain lanolin." The advertising campaign for the product will feature, in addition to a wide program in a number of magazines, a series of full-page two-color ads in *Life* magazine.

•

Book Review

The Selling Power of Packaging by Vernon L. Fladager. Published by McGraw-Hill, New York. 144 pages, $3.50.

How packaging emerges as a top-rank profit factor in business and what the business man should know about packaging to make fullest use of its possibilities is shown in authoritative and fast-reading style in this newly published book. Vernon L. Fladager, account executive, D'Arcy Advertising Co., and a veteran of 20 years in advertising and promotion, surveys the field—the things that are affecting packaging—and the revolutionary effects it can produce—in a crisp account.

Though not specifically concerned with pressurized products, Mr. Fladager's general survey of the packaging field takes in so many of the larger aspects and problems that it is worth the reading.

The growth of self-service retailing, the changing consumer, the growing importance of integrating packaging with promotion and advertising, the advantages of higher net profit packaging, the rising stature of the package designer, package pre-testing, and other facets of the subject are discussed, with pinpointing of the facts and trends significant to the business man.

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French Firm Thanks CSMA for Aerosol Award

Elékal, Paris, France, winner of first prize among the entries in the miscellaneous household products class in the 1956 aerosol packaging contest of the Chemical Specialties Manufacturers Association, recently sent a letter of thanks to Frederick G. Lodes, chairman of the contest committee. The Paris firm won the award, announced at the CSMA's 43rd annual meeting in Washington, for "Bib" a window cleaner packaged in a glass bottle.

The text of the letter is as follows:

Dear Mr. Lodes

It seems unnecessary to tell you that your letter gave us a great deal of pleasure and created a good deal of excitement among all our personnel. We did not expect that our efforts could result in such a reward, and are happy to see that the committee, of which you are the chairman, did not hesitate to distinguish a foreign firm.

We estimate that this is evidence of the open-mindedness we often meet among our American friends; and you can be assured that it has made the reward that much more valuable to us.

We only regret not to be able to take such an opportunity to meet our American colleagues with whom we are acquainted, as well as those we should like to meet. I hope, nevertheless, that such an opportunity will arise again, because we never forget over here the pioneer work that has been done in the United States, and the advantages thereof we have gained.

Paul Appell
Elékal

•

Grace Opens Plastic Plant

W. R. Grace & Co., New York, last month opened its Polymer Chemicals Divisions's laboratories and main offices in Clifton, N. J. The division will manufacture high density linear polyethylene on a license from Phillips Petroleum.

•

Silicone Spray Introduced

"Ambersil," an aerosol-packed silicone spray mould lubricant, was introduced recently by Amber Oils, London, England. The product is said to be particularly suitable as a mould release agent for plastics and as "anti-stick" coatings in operations ranging from welding to baking. It is being produced in two formulas, one which has been diluted with a solvent to give a finer spray and thinner film, and another which is almost non-flammable.

Amber Oils, a new entrant into the aerosol field, claims that the product will reduce moulding cycle time, reduce rejects, and generally improve the finish.

•

Canco Names Two in Chicago

The American Can Company, New York recently named a new sales manager and assistant sales manager for its Central Division, with headquarters in Chicago. F. J. Dowling, who had been assistant manager of sales, succeeded F. B. Newcomb, recently appointed vice-president, as sales manager. S. J. Austin, Chicago district sales manager, was named assistant manager of sales.

OVER THE TRANSOM

THE March issue of Aerosol Age, in a news story on H. R. Shepherd's election to the Young President's Organization, described Mr. Shepherd's as being "one of the first in the aerosol industry elected to the organization". Mr. Shepherd is quick to supplement this report, pointing out that George Barr, of G. Barr & Co., and Kenneth Leghorn, of Sun Tube Corp., were previously elected to the YPO.

* * *

The company in aerosols that can probably claim the longest history, is very probably Messrs. Woltman Elpers, Amsterdam, Netherlands, which just recently brought out "Gold Hand" (De Vergulde Hand) shaving cream. The company was established in 1554 and has been in the soap business for over 400 years!

* * *

One of the really "hot" aerosol products, reportedly in an advanced stage of development, is pressurized coffee, an instant concoction that may eventually put this aerosol beverage in every kitchen pantry. According to our informant, most of the formulation problems have been so well solved that push-button coffee is a serious possibility for the not too distant future.

* * *

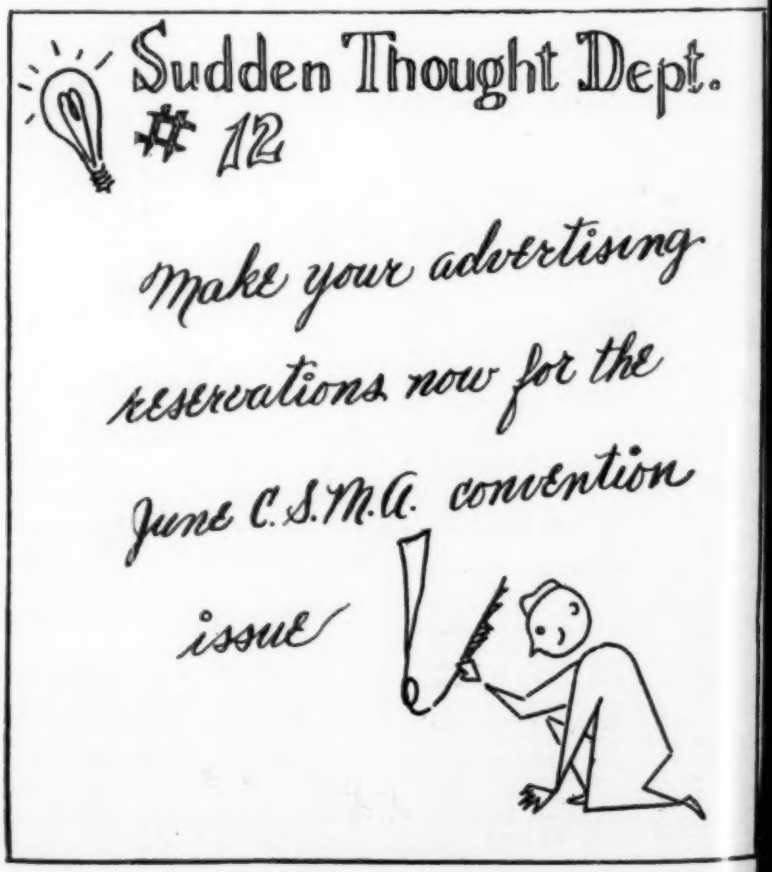
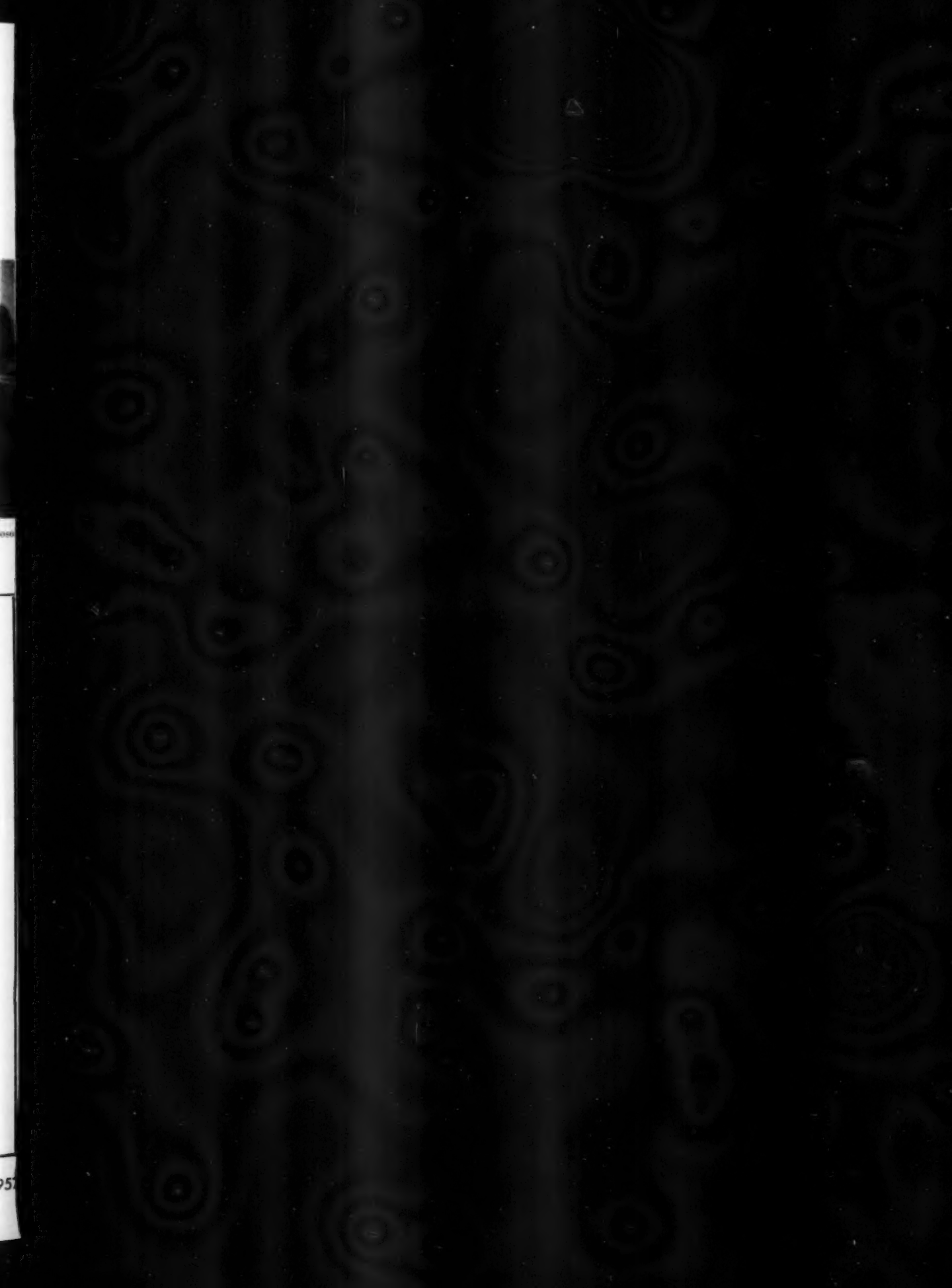
AEROSOL AGE, with its story on "Bridgeport—Aerosol City", has succeeded in spreading the aerosol story to the public in a city long noted for the development of pressurized packaging. The story in our February issue was recently reproduced, together with pictures, as a full-page feature in The Bridgeport Post.

* * *

Riker Laboratories recently came out with a new nasal spray called "Medihaler-Phen", which is being marketed in the Rexall Drug Chain. The package utilizes an Emson stainless steel container (the first drug product to come out in this type of container) and is equipped with a 50 mg. metered Emson valve.

* * *

An article attacking the use of unprotected glass aerosols has appeared in the February issue of Soap, Perfumery & Cosmetics, English trade magazine, published in London. In our next issue we will report fully.

Julie Andrews Stars On Shulton TV Show

George L. Schultz, president of Shulton, Inc., Clifton, N. J., saluting Julie Andrews, star of the Shulton - sponsored TV spectacular "Cinderella," with the traditional champagne toast in the star's slipper. The spectacular, written especially for television by Rodgers and Hammerstein, appeared March 31 as part of Shulton's 1957 advertising campaign for its aeroso and cosmetic products.